The Obstetric Gazette.

Vol. VIII. — AUGUST, 1885. — No. 8.

Original Articles.

SURGICAL TREATMENT OF INFANTS.

Read by invitation before the Philadelphia Obstetrical Society, June 4th, 1885,

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Your committee having invited me to speak to you to-night upon the Surgical Treatment of Infants, I propose to confine my remarks chiefly to personal experience in the means of relieving the principal surgical difficulties which are met with during the first two years of life. If the subject shall occasionally lead me to mention older children, it will be because the line between infancy and childhood is not a marked and well defined one.

As you are all active practitioners also, it will be unnecessary for me to dwell upon detail, and I shall only touch upon practical points in treatment. The surgery of childhood as compared with that of adult life, is, aside even from congenital defects, sufficiently marked and distinctive to entitle it to separate consideration.

First of all, must the children's surgeon acquaint himself with the anatomy of the child. This is rarely done, as the ordinary adult dissections during a college course, give little idea of the size and position of the individual elements as seen in the infant. In consequence of ignorance upon this practical point, many grievious failures have occurred. After unusually large opportunities for the study of both normal and abnormal tissues in the diminutive frame, I am still frequently surprised to note the exceeding smallness of different organs and canals.

Another essential element in the surgeon is tact in the management of the little ones, especially when dealing with those between the ages of two and ten. In hospital cases, but little history is attainable and much depends upon quick perception. Naturally fearful of pain, the patient's mind must be diverted and engaged or great difficulties in diagnosis will often occur from the fright and struggling. The operator not in sympathy with children can never secure their confidence. Much will often be gained by quiet observation. It is not a month since my opinion, which, at the first few moments of the consultation, had been favorable to tracheotomy, was changed by five minutes close watching, and the result

proved the correctness of the procedure. To the person, however, who will carefully study individuality as well as disease, no department of medicine offers so pleasant a return for his labors. My personal experience with children has perhaps made me more hopeful in regard to the power of such individuals to endure pain, shock and disease, than would be indicated by the expressions of other authors, but to me there is no domain of surgery so attractive and gratifying as the treatment of children below the age of puberty. Their natural condition is that of hopefulness and as soon as the depressing influence of shock, pain or fear is removed, the normal resiliency of mind and body asserts itself with such rapidity that the results are often surprising.

Again, a child has only inherited taints of constitution to contend against; his viscera are ordinarily in a healthy condition; an adult has not only hereditary, but all the acquired vices occasioned by misuse or abuse of any organ or sets of organs, a circumstance which often turns the scale in the struggle between life and death. Take, for example, the single instance of the outraging of tissues by either the moderate or the excessive use of alcohol, and every surgeon will testify that even slight wounds may, in such an individual, quickly develop a fatal attack of mania-a-potu.

Tetanus is not more frequent in infants than in adults, notwithstanding the tendency of the former to nerve excitability.

In regard to anæsthetics, my experience is that great benefit is obtained by the use of ether when pain can thereby be prevented. In the first weeks of existence, I admit that a feeble vitality would contraindicate its use, although I have successfully administered it to a three-day old infant. After the first or second month, I see no reason why we should needlessly inflict pain upon an infant simply because we can controll it by brute force. In the examination of fractures great suffering is often inflicted by careless and frequent manipulation, and unless the diagnosis is easy and positive, unconsciousness should be produced. No case of bone injury should ever be passed by undiagnosed, when ether will solve the question.

In the opening of abscesses, the "primary influence" of ether is so readily obtained that it should be brought into use whenever practicable, as keenness of pain can thereby be avoided.

Fear plays an important part and may depress the child's system even more than pain, hence great caution should be observed that all knowledge of any operative procedure should be guarded against. When the day for action arrives, let the surgeon quietly and state to the little one, if it has arrived at years of reason, just what it is proposed to do, at the same time assuring him that no pain will be experienced, and if such words be followed by firm, speedy and judicious management, much agitation and fear will be avoided.

All preparations should be made out of sight and hearing of the patient and instruments need never be seen by him, except when a strong impression is intended to be made upon the mind of a masturbating boy, requiring circumcision, in which ether may also be omitted.

One word in regard to the method of anæsthetization. It is but natural that a child should be distrustful of any attempt to deprive him of consciousness, a fear which is greatly increased by the injudicious and greatly to be condemned habit of many parents, who systematically threaten their offspring with the expression, "the doctor will come and cut your head off." A few kind words will often quiet the agitation, and simple directions as to the method of breathing, will save many minutes of struggling resistance. With very young children, the first smell of ether may be masked by permitting them to see cologne poured upon the towel, after which ether may be quietly added and they will feel that it is a perfume that they are breathing. This device has frequently served me a good purpose. I always allow a good admixture of fresh air for the first moment, but when the child actually begins to cry, then quick action answers best. The towel should now be well saturated and held firmly over the nose and mouth until two or three strong screams and inhalations will yield a full primary impression which can be gradually followed up to complete anæsthesia with safety.

Should any symptoms of ether narcosis occur, it is so easy to depress the head of a child or to perform artificial respiration by acting upon the ribs, that serious accidents are infrequent. Subsequent vomiting is very common but is not persistent and is easily quieted by a small hypodermic of morphia, a procedure which ordinarily brings quiet sleep to the patient. If the child is feeble, I always allow milk up to within two or three hours of the operation, and then administer wine or whisky in water immediately before giving the anæsthetic. Milk with lime water and whisky is usually retained within ten minutes after the first vomiting on rousing. In tedious excisions, not only should preliminary precautions be taken to secure against prostration by shock, but hot water bags should be ready for use, which with hypodermics of brandy, may succeed in tiding over a temporary depression which would otherwise end in death. When the loss of blood had been great, especially in acute surgery, important assistance may be gained by transfusion, either of blood or of a warm saline solution.

Under the head of arrest of hemorrhage, I would strongly advocate the use of animal ligatures, since the pain often incident upon the removal of threads, greatly disturbs the needed quietude of wound and mind.

Thorough asepsis and antisepsis are especially valuable, since we not only secure the admirable results that are attainable by their use, but are also enabled to disturb the child with far less frequency. I am now treating a girl with a railroad crush of the leg which would thoroughly

have justified amputation, yet which under corrosive sublimate dressings has not been touched but six times in as many weeks, even though extensive sloughing has occurred. Save upon one occasion, at the height of the process of tissue death, the applications have been taken away perfectly sweet, and the child has the promise of a reasonably good limb. In my ante *septic* days, I certainly was never able to carry a patient through such a process and keep the temperature, as has been done in this case, below 99½° all the time, and usually but slightly above 96°. With infrequent dressings, the irritation of the child is but slight, and if pain is also absent, contentment is the rule, under proper nursing.

I cannot too strongly emphasize the importance of this latter condition. A kind, quiet, gentle nurse, is one of the most valuable assistants in the real progress of the case especially during the first week following operation. Such care cannot be delegated to untrained and careless people, hence it is absolutely necessary that children should be in separate hospitals, or in separate wards, under the best of care-takers. Even in private practice, the mother is rarely the best nurse for a child past two or three years of age, and a skilled attendant answers best. In hospital practice, I have often been surprised to see how contented and patient the majority of children of even three years of age will become, if the mother maintains a judicious absence and the nurse is efficient and kind.

Another point which I wish most emphatically to emphasize to-night is the fact that congenital defects are most inexcusably and persistently neglected by even good practitioners, either the mistaken opinion that nothing can be done, or that a later period will be early enough. The consequence is that many unfortunates become helpless and hopeless cripples by their physician's advice, since passing out of his sight and mind, the neglect engendered by his dissection, "wait," is fostered by parents, ever ready to postpone a dreaded day.

Turning to some of the special surgical diseases of infants, I would say that it is my intention to simply touch upon a few points of treatment without regard to definite arrangement or order, since to consider almost any one of the conditions in full, would require an entire evening's discussion.

In a new born child, the first most probable trouble requiring surgical relief will be *imperforate anus* or *rectum*. Such a condition is not improbable when we remember that the intestine is formed as a closed tube. If the malformation be simply one of occlusion of the anus by a membrane, it would seem to be the easiest of procedures for any practitioner to make an opening, yet I have seen children permitted to die with the entire ischio-rectal fossa and perineum bulging with retained feces, when a simple puncture through a membrane, closing an otherwise normal anus, would have given immediate relief. This timidity may perhaps be ex-

plained by the fact that occluded anus and imperforate anus are confounded with imperforate rectum and the case is given up as hopeless. In imperforate anus, the operation is still a simple one, since a crucial incision, together with stitching of the mucous membrane to the skin and subseqent dilatation with the finger or probe, is all that is required.

When the anus is normal and patulous, but the rectum is occluded by a membrane, or is actually absent, then a much more serious condition presents itself, the difficulty increasing in proportion to the extent of the deficiency. Should no meconium be passed within the first twenty-four hours, a careful search should be instituted. The little finger or a catheter passed into the anus will detect the obstruction, or if the anus be absent, the vagina, if present, may be explored for the abnormal fistulæ. As soon as the presence of feces can be discovered in the fossa, a careful dissection should be made, keeping well backward, so as to avoid the vagina, or the urethra and bladder. A catheter should always mark the position of the urethra. There is but little danger even in deep incisions if the region of the coccyx and sacrum be followed. The gut found, should be drawn down as far as possible and secured, a channel being maintained through the lower rectal region, if necessary, by the finger or by bougies, the latter of which should not however be retained constantly in position. There is much less danger from subsequent hemorrhage, if the external incision be free, and no fear need be entertained about the ultimate retention of feces, as, if the child escapes peritonitis and other inflammations, good control of the bowel is always secured, in fact the chief subsequent danger lies in the formation of stricture. When the length of the bowel will not permit it to reach to the site of the anus, the new opening may be made nearer to the sacrum. Should no trace of the rectum be found within two inches of the anus, it is unsafe to further explore a region where peritoneum would be liable to injury; either left inguinal or left lumbar colotomy should be performed. The right groin is to be selected if there are evidences of absence of sigmoid flexure. The left inguinal position gives a better subsequent opportunity of passing a bougie downwards into the rectum and thus establishing a proper anus. If the colon is full, it will not be difficult to find. In cases of doubt, its distention by air or water through a hypodermic needle, would determine its termination. Abnormal openings into the vagina, bladder or urethra, rarely require early operation, but in non-retention of feces at a later age, Rizzoli's plan of procedure is a good one.

Later in childhood, the surgeon is often compelled to treat another condition of the rectum, namely, prolapse. This, if excessive and non-yielding to replacement, astringent applications, hot water bathings and general constitutional measures, must be cured by the production of linear eschars by nitric acid.

The genito-urinary organs may also require attention immediately after

birth. A simple occluded urethra is easily relieved by the careful introduction of a sound or catheter. *Epi-* and *hypo-spadias* and *extrophy* of the bladder should not be allowed to go on to adult life without relief. As soon as the child has passed its dentition period, a plastic operation should be attempted for relief, since the mental and moral effect of such a deformity has often a marked influence upon the lives of the unfortunates. *Adhesion* of the *vulva* or nymphæ should not be overlooked, since not only does the nervous system suffer, but the parts may be improperly developed. Separation can almost always be accomplished by the finger or by a probe. An absolutely *imperforate hymen* should never be allowed to exist if discovered, since if permitted to impede the menstrual flow, at a later period, serious and even fatal results may follow its division, if the uterus and Fallopian tubes have become dilated by the imprisoned secretion. *Imperforate vagina* should receive at least careful diagnostic attention to detect the presence of a uterus, and if not absent, fuller development will be secured, if the passage can be opened during the first few years of life. With a catheter in the urethra and a finger in the rectum a careful operator can explore safely. I have met with several cases in which the *penis* was preternaturally *short* and illy-formed, the body of the organ during flaccidity being almost entirely concealed in the fatty tissues of the pubis. In such instances, I have removed the prepuce during the first three months of life and have cut away all restricting bands of skin and connective tissue, sometimes even drawing beneath the penis an extra flap of skin when the corpus spongiosum has been short and dwarfed. By such means, the fullest amount of growth is encouraged.

Adherent and contracted prepuce or phymosis has been the subject of much discussion in regard to its casual influence upon certain nervous manifestations. My views upon this subject have been already published, and after two years of additional experience, during which time I have been brought daily in contact with this class of cases, I can reiterate what I then stated, namely, that while more or less adhesion is an almost constant and normal condition, yet when that urinary, choreic, paretic, or any other nervous symptoms develop, a careful investigation should never be omitted, since a direct relation will, in a certain number of cases, be clearly evidenced, and removal of the cause will speedily cure the manifestation. The fact that even circumcision does not relieve the symptoms is undoubtedly true in many instances, and I have never claimed that preputial adhesion and narrowing was anything more than one of several factors which should be carefully scrutinized. I have only urged that its influence should not be overlooked, and when so simple an operation as stripping the prepuce from the glans by the thumbs or possibly by the use of a probe, is all-sufficient, there can be no argument against remov-

*Philadelphia Medical Times, June 30, 1883.

ing this one factor. My opinion in regard to the feasibility of drawing back the prepuce in young children, even when the opening seems scarcely pin-hole in diameter, has been greatly strengthened, and circumcision is only necessary when the simpler method described fails to secure a prepuce freely movable over a normal glans. Dilatation even is but rarely required, a few moments of continuous pressure soon revealing the mucous layer, adherent perhaps, just about the meatus, which, when loosened, permits the head to pass through the opening and the corona is freed with the thumbs. Should temporary para-phymosis occur, two probes, or a hair-pin slipped beneath the constriction will easily permit replacement.

Congenital hydrocele rarely requires much surgical interference beyond an evaporating lotion of muriate of ammonia or alcohol, as a few weeks will often close the canal, if hernia does not co-exist, a fact which can be determined by non translucence and capability of reduction. Should the connection with the peritoneum fail to close, puncture, with the application of a truss, will usually complete the cure. A hydrocele with closed canal, is better treated by tapping and injection than by seton. The diagnosis between *encysted hydrocele* of the cord, *hernia*, and *undescended testicle* is sometimes difficult, but if the surgeon remembers that the former is simply a cyst in some unoblitered portion of the peritoneal coat of the cord, that its rounded shape can be detected if it is pulled well down into the scrotum, that it is usually translucent, that the impulse is not as decided as in the case of hernia, that it returns to the abdomen only by being pressed upward, and not with a slip and gurgle, he will rarely be led astray. A hernia may co-exist with either of the above mentioned conditions, but if non-adherent careful isolation will settle the diagnosis. Should the hernia become strangulated or the non-descended testicle become inflamed and infiltrated, the most careful examination will be necessary. In retained testicle, its absence from the scrotum will be the first point in arriving at a decision, but even in such a condition the organ might be within the abdomen and an encysted hydrocele present, or the testis might, as has recently fallen under my notice, slip into the tissues of the perineum and be exceedingly difficult to discover. In the case just mentioned, it sometimes requires numerous manipulations to cause the missing organ to return to its place in the pouch. Should hernia and retained testicle both exist, a double purpose can be gained by drawing the latter down, and pushing the former up and then applying a truss. The successful retention of the organ within the scrotum is a matter of great difficulty, and removal is scarcely justifiable in young persons unless pain or inflammation ensues. Extirpation, if required in later youth, will probably not interfere with the procreative power of the individual, since one gland will supply all requisite material, and the affected one is practically useless from atrophy, even if it is

not devoid of tubular structure. Traction is of little service as manipulation tends to increase the sensitiveness of the organ. In prognosis it should be remembered that cryptorchism exists in nearly ten per cent. of males at birth, and that descent may occur within the next few weeks.

Simple *umbilical* and *inguinal hernia* should receive early attention as, contrary to the rule in adults, a cure can often be effected during the first year of life by the persistent use of a truss. In young infants, I prefer the hard rubber variety as more cleanly. The instrument should be applied during the first few weeks of life and continued for one or more years. The treatment of strangulated hernia does not differ from that of the adult, but in obstruction of the bowels, *intussusception* is so commonly the cause of the blockade, that, unless violent peritonitis is present, laparotomy, with careful search for the invagination, offers the best hope of relief, and, I am glad to say, is rapidly growing in favor.

Meningocele, *encephalocele* and *spina bifida*, are complaint's that will early require the surgeons attention or at least his expression of opinion and his prognosis. If attached by means of a narrow pedicle, constriction with an elastic band is feasible, but unfortunately this pedicle is but seldom found. Injection of iodine, following tapping, is rarely successful, yet is worthy of trial in so hopeless a task. In a large hydro-rachis of the lumbar region, lately under my care, which resisted pressure, tapping, injection and constriction, I was strongly inclined to excise the thin sac and attempt a plastic operation by drawing in toward the median line two flaps of skin from the lumbar region, leaving the vacancies to granulate. Soon after a consultation, in which I was dissuaded from my attempt, the tumor ruptured spontaneously and death occurred in two days, although frequent tappings had never produced any nervous symptoms. I had then never seen a record of a plan of procedure, but only last week I noticed in the Journal of the American Medical Association, vol. iv., No. 17, p. 466, that Mr. Robson had performed this operation, with successful results in two out of four cases. Strict antisepsis was enforced.

Cephalhæmatomata are usually easily distinguished from encephalocele or meningocele and also from the simpler tumor, caput succedaneum, the latter being exterior to the periosteum and more doughy. The blood in a cephalhæmatoma is always confined between the pericranium and the bone substance, and increases until the second or third day. The hardened ridge around the border of the tumor may give the sensation of an opening in the bone, but the orifice in meningocele is rarely as large as the base of the swelling mentioned. The peculiar crackling feeling upon pressure at a later period, is due to the new bone deposits beneath the periostem. Absorption so generally takes place in three or four weeks that aspiration or incision is unwise, even though antisepsis be thoroughly practiced, unless in exceptional cases, when suppuration is certainly present. Lotions have a good influence, at least upon the brain of the mother.

Hare-lip will early require the careful study of the surgeon, situated as it is upon the portion of the body that is most regarded in the cosmetic point of view. Its proper relief, therefore, becomes not only a matter of surgical skill, but of surgico-artistic skill. The time for the performance of the operation is a point upon which there is a wide diversity of opinion. My rule is to relieve the deformity within three or four days, if it interferes with the proper nursing of the child. Practically I must confess, however, that by the end of the operation the milk has left the mother's breast, unless there is some other baby to maintain the flow. My preference is to wait about three months until a full, vigorous activity of growth and cell action is at work, and before the process of dentition has commenced. This period is selected, not only for the reason mentioned, but also because the child can not use its hands as freely as at a later period of infancy, thus avoiding risk of injury. In one patient, a year old, diphtheria appeared on the day following operation, and in his convulsions all the pins were torn entirely from their fastenings and the fresh wound became implicated. In spite of such complication, an excellent result was obtained by holding the parts in position for days with adhesive plaster cut in the form of a triangle, sufficiently large to cover at its base the area from in front of the ear to the corner of the hyoid bone, with its apex prolonged at the width of the upper lip to meet a similarly shaped piece from the opposite side. These sections were united by a small, elastic ring, which maintained a constant pull upon the tissues of the cheek and controlled spasmodic muscular action. In fractious children, I have now abolished pins and have substituted catgut sutures for the mucous surfaces, which is of small size, and tied in three knots will remain in position until union occurs. For the skin edges, I use carbolized interrupted silk sutures, my reason for stitching the surface separately being that there is less linear depression of the cicatrix, and less constriction of tissues is thereby exercised than by pins and figure of eight, while if each set penetrate half way through the lip antero-posteriorly, the sphincter is thoroughly controlled. One of the stitches should pierce the coronary arteries. To prevent any pouching of the flaps or separation of the deeper parts by oozing, horse hair drainage for a few hours, answers the best purpose. Additional control of muscles should be given by adhesive plaster prepared as above indicated, or by strips which should not only be applied transversely, but in order to prevent strain, should commence upon the neck on either side, in front of the sterno-mastoid near the corner of the hyoid, and run thence, just above the angle of the mouth, across the opposite malar to the front of the ear. If these are all put in position while the surgeon pinches the cheeks well together, he will find, upon releasing his grasp, that the minimum of tension is exerted upon the stitches. A still better plan is to have the nurse regulate this muscular action for the first few days, by

pressure whenever the child cries or eats. Only by securing union by first intention, can we hope to have a narrow cicatrix, hence I do not allow the child to suck, as is the practice with some surgeons, but prefer spoon feeding as producing lesss disturbance. For the same reason, anodynes should be employed to control pain and keep the little one for a few days in a quiescent state. The child should be in the best possible condition physically, as quick union is desirable. To avoid the marginal depression so commonly seen, and which is inevitable if the simple inverted V-incision is used, I never sacrifice any portion of the paring, but commencing the incision at the apex of the cleft, it is stopped just before it reaches the border of the lip, thus leaving a base of supply to nourish the flap which remains on either side. These two flaps, when the parts are brought together, project downward and form a fleshy prominence, but if stitched nicely together will unite, and from subsequent absorption during the next year will give a slight projection. Even should this be larger than desirable it is far preferable to the ugly notch which can not be corrected, since a simple scissor cut will remove all redundancy and give a nearly normal lip. The same rule in regard to utilization of tissue holds good in complicated cases of hare-lip when it becomes necessary to save as much of the alveolus as possible. Broken or cut, it can often be worked to advantage in bridging the chasm or supporting a fallen nasal septum.

If *cleft palate* co-exists with hare-lip, an additional necessity for early treatment is present, since the closure of the lip will tend greatly to lessen the gap in the hard palate. Dentists realize more fully than surgeons how slight is the pressure required to act upon a tooth or upon the alveolar pressure process, but a moment's reflection will convince any practical man that such narrowing can be accomplished even if he has never witnessed it. In these instances as in hare-lip and many other deformities, neglect is often as much the fault of the physician as of the family, An early operation upon the lip, strong pressure upon the maxillary bones, followed by the use of a Hainsby's compressor, will in a few years, bring the cleft so close together that a single operation will unite the edges.

These are the considerations which influence me in advising that while the lip should be closed early, the cleft-palate operation be deferred until the plan has been tested. Few children from five to ten are tractable enough to endure the pain of a staphylorrhaphy without ether, which is desirable, and I see no particular harm in delaying the procedure until the latter period, save that the unused or malused muscles will require a longer period of education after closure. In a recent staphilorrhaphy upon a boy of sixteen, the letters of the alphabet could, however, all be correctly pronounced in three weeks except the k and hard c sounds. If a good volum and uvula can be secured by union, the hard palate can be

admirably assisted by an obturator. Only last week, by prelimary touching and the use of cocaine, I was able, in a child of five years, to make the parings without pain, and thus avoided anesthesia until all hemorrhage had ceased, ether being employed for stitching only.

Tongue-tie is a condition that exists more frequently in imagination than in reality, yet the operation for its relief need be no more than the most trifling nick of the fraenum, the finger completing the work. If the organ can be protruded to the red border of the lip no operation is necessary.

Club-foot is a deformity which is frequently neglected, not alone from the apathy of parents, but as is shown by the cases which come under my notice, far more frequently from the incomprehensible advice of the family physician, who has counseled that nothing shall be done for the present. Weeks slip away into months and months into years, during which time, one set of muscular fibres and one set of ligaments, have become elongated, while the opposite ones are atrophied, condensed and shortened. Bones, too, have become distorted and wedge-shaped, and the difficulties have, of course, increased four-fold with each advancing year. I have never been able to comprehend any reason why delay should be countenanced a single day after birth, since manipulation and subsequent fixation can easily be accomplished at the first dressing of the child. I know of no words sufficiently strong to characterize such neglect of duty as is seen in numerous instances. Twice in the last three days have I had this matter brought before me by parents, who have come to the office, and who have given as the reason of their inaction that the physician had directed them to wait. Even before the age for walking, great condensation of tissue will take place and increase of deformity will occur from simple pressure of clothing, but as soon as the weight of the body is brought to bear upon these misshapen members, the change will be rapid. The secret of cure of club-foot lies not in operation, but in careful attention to all the means of relief. At the first hour of birth, as I have said, manipulation should be commenced by bringing the foot from the abnormal into a normal position, or as near it as possible, and confining it there by wood, felt, binder's board or leather splints rightly adapted. At the next visit, leather, gutta-percha or, preferably, printer's blanket cinctures, should be laced upon the foot and leg and connected by an elastic strap. The two-ply printer's blanket, with its rubber face, does not slip even when applied with only moderate tightness, thus being superior to other materials. Hook eyelets are easily inserted by any shoemaker, and the lacing need not impede circulation. Manipulation can be practiced twenty times a day without taking off the apparatus while removal at night gives opportunities for massage, frictions, etc. If cooperation of parents is wanting plaster of Paris can be employed with excellent advantage for fixation, a

gain being affected with each months renewal of the dressing. Leather, felt, sheet-lead and silicate of soda are of use, but do not permit removal for manipulation and are therefore inferior to the bands already mentioned. These bands which permit of constant elastic traction day and night are very inexpensive if remnants are bought. Their use puts the successful early treatment of any case of talipes in the hands of the ordinary practitioner for the first few months of life. In cases which are of a severe type, a subsequent operation is usually necessary, but the manipulation which has been practiced up to the time for tenotomy, stretches condensed tissues and increases nutrition so that relapse after division of the tendons will not occur if the same measures be continued subsequently, failure after tenotomy is nearly always due to the neglect of manipulation. The special form of apparatus is far less important than a strict attention to details. The chief advantage of the shoe which I employ, lies in the fact that it permits manipulation and stretching without removal, owing to its flexible sole, shank of upper leathers which acts as perfectly as a ball and socket joint, the force being exerted by an elastic strap operating upon the foot through a catgut cord passing through an eye attached to the upright. The eye-bearing arm is ordinarily constructed with too little outward bend. If I can controll the patient, I rarely operate until I have the tissues thoroughly stretched, but if the foot can not be placed upon its plantar surface at eight or nine months, that is, when the age of walking arrives, tenotomy should be delayed no longer, since each step will increase the deformity. In operating I divide every tissue that interferes with perfect straightening whether it be tendinous or fascial. The tendon of the posterior tibial is an exceedingly difficult one to sever in a fat infant with poorly developed heel. The puncture should be made just below the malleolus and having placed the back of a tenotome toward the artery, division can be safely made. Tenotomes as found in the shops, have too long a cutting surface for infantile work, as the sharp edge will frequently enlarge the external wound unnecessarily. It is my practice to leave the tendo Achillis until the end of the operation in order to gain its fixation power in the leverage required for stretching the parts into position, a procedure which is best accomplished at the time of operation. The amount of power which should be employed in this process, is governed by the degree of resistance and the caution of the surgeon, especial care being taken that the force be expended only on the resistant tissues. In the class of cases with which this paper deals, namely young infants, it is scarcely possible that tarsectomy could be called for, although an English surgeon has thus operated upon a sixteen months old babe. I now use the gypsum dresssing entirely after tenotomy, since it is not only less expensive, but chiefly because it holds the foot and heel in much better position than is possible by any apparatus, and is less liable to produce sloughing

since the pressure is exerted over the entire surface. The instances where plaster produces a slough are always due to faulty application, mainly caused by some indentation produced during the setting process. If the bandages are smoothly and rapidly applied, (salt having been added to the water in which they are immersed), the surgeon can by grasping the knee, holding it steadily in place while with the palm of his other hand placed against the plantar surface of the child's foot, complete rectification can be maintained until the plaster hardens without danger of depressing any region of the cast. A dossil of curled hair or cotton placed over the ball of the great toe and the prominence of the cuboid or astragulus and confined in position by the flannel bandage eveloping the foot, will also assist in averting any harmful pressure.

I cannot too strongly emphasize my appreciation of plaster of Paris in the treatment of *fracture* in infants, giving, as it does a perfectly adaptable material and yet, when hardened, securing an immobility of the injured part that permits free handling, providing the articulation both above and below the injury is included in the dressing. This is feasible even in fractures near the hip, since the splint can be made to encircle the thorax and thus prevent the great motion that is always present if only the pelvis is fixed. No risk of injurious swelling need be feared, if a flannel bandage or a thin layer of cotton is first applied to the limb. It is better to saw open a dressing at the end of two weeks and either tighten it or apply a new one. Salicylate and other rigid dressings harden so slowly that displacement may occur during the process. The fractures occuring during birth are often overlooked for several days, and the fact that the child moves a particular portion of its body freely is not proof that lesion of bone has occurred. I have seen several instances of fractured clavicle in which the child indulged in the most vigorous movements of the arm. These collar bone breaks are quite common either from falling out of bed or from careless handling, or from playful jerking of other children. The under waists of an older child placed in a proper position over the well arm and pinned tightly around the body so as to include the injured member often keep in place better in fat babies than a Velpeau bandage, especially if the hand is secured with a loop. Borated cotton should be placed in the axilla.

Green-stick fractures are best treated by etherizing the child and slowly straightening the bone by hand pressure. Even should complete solution occur, the result will be good. A slight curve can be reduced by splint and bandage. Separation of epiphyses are practically fractures and should be treated as such.

Dislocations do not differ from similar injuries in adults save that they are even more rapidly replaced by manipulation.

The resultant deformities of *infantile paralysis* are numerous and are frequently passed over by both physician and parents under the erroneous

impression that nothing can be done for the relief or these poor weakened members. Recognizing that restoration is best accomplished by massage, electricity, etc., and particularly by action, it is my rule never to assist a muscle if it is capable of permitting locomotion, or unless deformity is being produced by non-support. The following are the considerations that determine the necessity for apparatus. If a bone is bending, or an articular suface, becoming distorted, or ligaments yielding, or muscles becoming atrophied from excessive stretching, or if by applying a support, the child can be made to walk, then I always order an apparatus which shall not take the place of the enfeebled muscles or put them in splints, at best, but which shall render just enough assistance to enable them by hard contraction to accomplish the desired purpose. If rigid steele be used, they will soon vanguish their attempts at assertion of power, and enfeeblement will increase. By a judicious adaptation of mechanical appliances many who are now condemned to chairs and beds can be placed upon their feet. The advisability of tenotomy will depend upon the benefit to be gained from such a procedure. In many cases, it will assist greatly in placing limbs in proper position for locomotion and for this reason its mechanical effect should be thoroughly studied. My observation leads me to believe that it is employed too seldom. The excision and shortening of tendons by suturing is often of advantage. Any irregularity in the length of limbs should be counteracted lest lateral curvature result.

Naevi if situated upon exposed portions of the body, must be cured early in life if rapidly increasing in size and in the majority of cases should be attended to before six months is reached. The question of excision, ligatures, subcutaneous ligature, injection, electrolysis or sun-heat will depend upon situation, size, etc.

Webbed fingers and supernumerary toes and fingers will yield smaller resultant scars, if operated on during the first half year of life.

Wry-neck may follow injury to the spinal accessory nerves during labor or it may be found as a result of some of the exanthemata. If resistant to local and constitutional remedies, myotomy should be performed at the end of a year.

Spinal caries in young children can be retarded by placing the sufferer upon its back between two sand-bags, while passive motion is employed to develope muscular power. A jacket or cuirass may be added if bone death is rapid or if difficulty of retention is experienced. Horizontal extention is rarely necessary. I have occassionally seen lateral curvature in weak infants caused by the mother's habit of always holding them in one position, the reversal of which custom, has together with constitutional remedies completed a cure. It may also be the result of a rachitic tendency which will necessitate the appropriate medicinal and hygienic management. Simple posterior curvature and also lordosis are

sometimes found and should be closely watched, as other symptoms of that disease of mal-nutrition, rickets, may soon present themselves. Dorsal decubitus should be maintained until the proper treatment has had time to strengthen the child. *Rickets*, fortunately, is seen upon this side of the Atlantic far less frequently than on the Eastern shores, and I am thankful to say is seldom found in Philadelphia even as compared with New York. In fifty thousand cases in our hospitals, I found that less than fifty are enumerated under rickets and its results, including knock-knee, bow legs, etc. Its on-set is usually within the first six months of life, but unfortunately many cases are not brought to the notice of the surgeon until one or two years have elapsed and great deformity has already resulted. When pronounced, the most rigid care should be taken to prevent the distortions from which no bone in the body seems exempt. The effects upon the female pelvis are most disastrous as life is thereby endangered. The recumbent position is the only safe one and must be maintained until the general remedies have time to act, passive motion meanwhile taking the place of the active. The tibial curves are the most common of defects. Very slight bowing is sometimes corrected in the growth of the individual, but we have no more right to expect that such a result will spontaneously occur than that a crooked tree shall be blown into an upright position by chance wind. The proper means should always be used to compel rectification. If the bones are spongy, then much can be expected from manipulation, pressure and apparatus properly constructed. During the first two years of life, we may confidentially hope to accomplish a good result by such means, but in later childhood or adult life; if the deflections are great, the bone rigid and especially, if the curve is anterior, but little can be gained by these means, and osteotomy is the more certain and speedy means of relief. The risks of this operation if done antiseptically, are but very slight, as the case if sealed becomes one of simple fracture. Plaster of Paris again gives us the best fixation after operation and is very comfortable to the patient.

I approve of instruments in lateral bow-legs, but when they fail to secure straight limbs in the class of cases above mentioned, I firmly advocate operation. To prevent the deformity to continue is not only unsightly, but also interferes greatly with the locomotive powers. It is not true that a bow-legged man is strong. He has on the contrary to use his limbs at a disadvantage and if he is vigorous, it is in spite of his complaint.

The question of *trachcotomy* in *young infants* with whom our present discussion chiefly deals, is one demanding the gravest consideration, whether the dyspnœa originates from diphtheria or from true croup. So fatal are the results, that the mortality in babes below the age of six months is placed by some writers as high as 95 per cent., and even taking all cases under two years, we cannot expect to save more than from

ten to fifteen per cent. We consider, however, that some English writers place the mortality of croup without operation at ninety per cent., we cannot believe that the operation has at least increased the number of deaths. Moreover, when cases are taken at the most favorable age and the most favorable conditions, we can scarcely hope to save more than twenty-five per cent. of all cases operated on. I have spoken thus in regard to prognosis since some surgeons absolutely condemn the employment of tracheotomy for these young cases. I cannot feel, however, that they are absolutely hopeless and if surgery can relieve them from the horrid death by suffocation we should not hesitate to give them the aid of science, although a true tracheotomy is well nigh impossible in a young, fat, infant, owing to the exceeding shortness of the trachea and the great size of the thyroid body, it is usually best to do an inferior laryngotomy (or crico-thyro-laryngotomy), making the opening through the crico-thyroid membrane and also through the cricoid if necessary. The risk of hemorrhage is thereby greatly diminished, since while the crico-thyroid arteries may be cut, they will be far less troublesome to secure than will the vessels about the thyroid body or the middle thyroid artery, which often lies in front of the trachea. Again the innominate artery may rise high in the neck, or a wound of a vein near the innominate may speedily kill the little one, as has happened in a number of instances, even when the operation has been experienced. The fact that surgeons who have opened the windpipe several hundred times, look upon this operation as an exceedingly difficult one, is proof that the utmost care is necessary. The danger of wandering from the median line may be partially obviated by having the child's head kept perfectly straight, and by placing the body in exact line with the table. The trachea is sometimes missed because it has not been thoroughly cleared of everything before attempting to open it. The puncture should be made firmly, but guardedly. The size of an infant's trachea will surprise one who has never studied it. Although I have given large and special study to the anatomy of childhood, both from the cadaver and clinically; my first tracheotomy case died on the table before I could insert the tube, my error being in trying to push the canula too far back. Unless the urgency is great, ether should be given in moderate amount, and the operation carefully performed. A plunge into the trachea is never good surgery; in infants it would be worse than folly. If a circular piece is cut from the crico-thyroid membrane and cricoid and a pilot used, introduction will be rendered more easy. In fat necks, the windpipe may be brought nearer the surface by extending the head far backward, and by grasping the tube on either side and dragging it forward. If fixed thus in the median line, and retained continuously by an assistant, much time will be gained. In a recent case, I found it wiser to go above a large, thyroid body, even in a five year old child, and insert the canula in the crico-thyroid space.

There was afterwards a slight burying of the upper edge of the plate, owing to its high position, but a strip of sheet lead obviated this difficulty. To arrest the venous hemorrhage, just before puncture, hot water sponges answer admirably. After operation, the temperature of the room should be kept above 80°. I have never opened the larynx to remove a foreign body in a very young child, but the universal habit of making the mouth a general receptacle of everything, makes the introduction of such substances exceedingly probable at from one to two years.

Foreign bodies in the nose which can not be seized, if not removed by sternutatories, should be always sought for with the aid of anæsthetics.

In the ear, the opposite mode holds good, since consciousness of pain will often prevent an unskilled practitioner from doing great injury to the membrana tympanum.

Joint Diseases are best treated by recumbency with fixation or extension.

Excisions are rarely performed at this early age, and need not, therefore, be discussed.

I omit strumous and syphilitic diseases, and a score of other conditions which might well detain us for hours, since time forbids.

I have thus, gentlemen, hastily touched upon only the more frequent of the surgical maladies met with in daily practice among infants. Many of the suggestions may be already familiar to you, but even the brief mention which I have been allowed to bestow upon each subject may possibly have served to revive in your minds old and forgotton experiences, and thus be helpful. You will at least see that the field is a wide one, and that results are most encouraging.

1818 Chestnut Street.

A FEW THOUGHTS ON BLOOD-LETTING AND THE USE OF FORCEPS.

Read before the State Medical Society of West Virginia, May 20, 1885, by
JOHN FRISSELL, M.D., Wheeling, W.Va.

I had intended, if I furnished the Society a paper at this meeting, to have given a short history of a few surgical cases, as a gun-shot wound through the axilla, the ball and a wad of clothes passing through and lodging against the back part of the shoulder blade; another in which the head of the humerus and the glenoid portion of the scapula were shot away, a somewhat useful shoulder being left after recovery; a third, a patient of Dr. Todd's, of Bridgeport, where two inches of the upper third of the humerus were shot away, the ends of the bones being trimmed and brought together, the union was perfect and no deformity except shortening; and also a perfect recovery from a gun-shot wound through the left side of the chest and the left lung, to which others might be added, but I have concluded to leave them, perhaps for another time, and make

some remarks on blood-letting as a general remedy in child-bearing and child-bearing diseases, and the use of forceps in cases of labor.

In the spring of 1833, I went to Woodstock, Vermont, as demonstrator for Professor Parker in his Woodstock course of lectures on Anatomy.

While there I became acquainted with the history and character of Dr. Gallop, then an old man, but one of the most distinguished physicians of Vermont. He was one of the founders of the Woodstock Medical School, and for many years one of the Professors in that institution. He had the reputation of being a great advocate for blood-letting and of using it largely in his practice, and his advice was said to be "*to bleed to the point of relief.*" I think from what I learned of him that he was in the habit of bleeding freely in many inflammatory diseases; but the saying was in the mouth of every one that Dr. Gallop advised bleeding to the *point of relief.*

In those days diseases were largely inflammatory, and were much benefitted by bleeding, and I am satisfied that in many instances bleeding till the patient was relieved was the correct doctrine.

The younger members of the profession know nothing by experience of things as they were in those days, nor how common bleeding was, nor how great was the benefit derived from it.

No doubt blood-letting was resorted to oftener than was necessary, but I am satisfied that in these times patients often die for the want of being properly bled. There is a medium line between the two extremes that is safe to follow.

Dr. Gallop's maxim was in many cases a life-saving maxim, and no one without actual experience could tell its value.

I was in the habit of bleeding often in my early years of practice, but not in large quantities in ordinary cases. Many, especially females, wanted to be bled every spring—it was fashionable and thought to be necessary.

I have many times bled to faintness when the patient was in a sitting posture. I had not been in practice in this city more than two or three years when a Mrs. P., a friend and patient of mine, was taken some time before confinement with puerperal convulsions and spasms. She became unconscious and lay like a person in apoplexy, and in spite of all I and some of the best physicians of the city could do, she lay in that comatose state without consciousness or power of motion, and gradually sinking for several days. All her friends had given her up to die.

We had bled her in the usual way and used all the remedies we could think of without benefit.

The maxim of Dr. Gallop, bleed to the *point of relief* was all the time in my mind, but the other physicians would not sanction that course, and so things stood. One night, while studying the case over, I thought to

myself she is my patient, and Dr. Gallop is a greater man and knows more about bleeding than any or all of us put together, and in the morning when I visit my patient if I find her no better, I will, with Dr. Gallop as my adviser and backer, have everything fixed and make a good opening in the vein of her arm, and I will bleed her to the *point of relief*, and take the responsibilities and the risks.

When I called in the morning she was still no better, but sinking. I told her friends that I would bleed her, and had things prepared, moved her to the edge of the bed, had her arm corded and held in the proper position. I then made a large opening in the vein, the blood started but soon refused to flow, but by placing the hand in hot water and using friction, the blood began to move slowly, and after coaxing for ten or fifteen minutes the stream became full and free. I let one wash-basin become well filled and took a second, and let the blood keep flowing on, and after a time a second became well filled, when I had the second changed for a third,

I let the blood still flow on, but the blood ran slower and slower, and she grew more and more pale and death-like, her pulse had nearly ceased beating at the wrist, and the blood was flowing only by slow drops, and about the time we all thought she was going to leave us, she opened her eyes and turned her head a little, and looked up and wanted to know what I was doing there.

The brain pressure had been removed, all her senses returned and she was well, all but what time and good nursing would finish.

When Mrs. P. looked up and spoke, and asked me in her natural voice what I was doing there, I think it was the happiest moment of my life. I have always thanked Dr. Gallop, and even to this day I thank him for that bit of practical advice, which no one else had the good sense or the courage to give.

I have in my practice of over fifty years had a good number of cases very similar to the one just related, and cases that I have cured in the same way, by bleeding to the *point of relief*. I have known other physicians to have, so far as I could learn, similar cases that died simply because they were not properly bled.

Those physicians had not learned the lesson and could not appreciate its importance. The patients die from the lack of practical knowledge and skill in their physicians to treat them properly; but the above was perhaps the most marked case of them all, the one that attracted the most attention, and the one over which there was the greatest joy in the result.

I have never had a patient die from being bled too much, but I am sure I have let a good number die by following the fashions of the day and not bleeding them properly at the proper time.

Blood-letting is one of the great and powerful remedies, and will ac-

complish results that nothing else will. I will not undertake to discuss the great subject, but would advise every one to study it for themselves; but so long as the present doctrine or fashion prevails in regard to blood-letting, I fear many of the profession will never understand much about it, for it is by practical or clinical experience alone that the subject can be understood and appreciated. Dr. Gallop gave that advice from long experience and observation.

It requires great knowledge of the system and of disease, to be able to tell at what time and under what circumstances blood-letting and other great remedies should be used. There is no doubt but the remedy has been abused, and there is no more doubt but it has been neglected when it would have been of great benefit.

A great amount of general bleeding formerly practiced was useless, but it was harmless.

It is one of the many things in medicine which, if it does no special good, seldom does harm.

A spring bleeding or a bleeding before a confinement of a strong woman was never known to do injury, but often seemed of great benefit by moderating vital action; but where there is over distention and engorgement of the heart and large vessels, and the equilibrium of the circulation is disturbed, bleeding often restores the lost equilibrium and relieves the heart, lungs, large vessels and the brain from embarassment, and there is no way we can relieve the trouble so easily and so quickly as by taking away a portion, and a large portion if necessary, of the fluid that is blocking up the sources of life, as in the case related.

We have to take blood almost to the point of taking life before the pent up trouble will give way, but when it does give way and the circulation becomes equalized, the result is most satisfactory and most wonderful. Such men as Parker, Gross and Atlee, as also nearly all who commenced practice fifty or sixty years ago, are in favor of judicious blood-letting.

Many who did not come on the stage till since the fashion changed and blood-letting became unpopular, hold on strongly to that view and reject bleeding almost entirely. Many of the young physicians have never learned to bleed, and do not even carry with them a spring lancet; much less a thumb lancet, which requires more skill to use properly.

Our professors of surgery used to lecture on venesection and show us how to perform the operation.

In the winter of 1844 and 1845, when spending a couple of months in New York city, I heard old Dr. Valentine Mott, then regarded the greatest surgeon in America, give a clinical lecture of an hour on venesection, in which he showed and explained, better than I had ever seen

done before, all the minutiæ and management of the operation, and spoke of blood-letting as the greatest and most valuable of our remedies.

When I was in New York, a little over a year ago, the young doctors, some of them sons of the old doctors, and standing high in the profession, called their fathers and such men as Austin Flint, Willard Parker, Alonzo Clark, and Frank Hamilton, *old fogies*.

They thought they were wiser than those who had studied and practiced through both periods, and knew from experience the merits of both methods of practice.

I endeavored to criticise some whom I knew well, but they did not like criticism any better than young doctors do with us, who have old fogies to deal with.

A great many new discoveries have been made and new things learned during the last fifty years, but it is an unsettled question whether the doctors of the present day, with all their science and superior knowledge, save, by their practice, as many patients as physicians did forty years ago.

The late Dr. A. S. Todd, who commenced practice in this city in 1819, when Wheeling was but a small town, and continued for near sixty years, had probably a greater run of success both with females and in general practice, than any other physician who has practiced in this city.

He was a practical, common sense physician, who believed in letting nature have a chance to do her own work, and did not interfere, except to watch and see that all things were kept in good condition for delivery.

Altogether his cases of labor numbered about two thousand, and in all that number he used instruments or had them used only five or six times, and he lost fewer females and fewer children in proportion than any other physician here. He would bleed, give laxatives, opiates and stay away from patients to gain time for the system to become relaxed and the soft parts yielding. He would manipulate, change the position of the child in the uterus, and when necessary perform what has been called in modern times *cephalic version*, and do anything necessary to keep the child in a normal position for delivery.

He would never hurry a woman to give birth to a child before she was in every way ready, however much she and her attendants might complain and call for help.

He did not believe that the Lord made females with so little consideration and forethought that they could not give birth to their own children without the aid of instruments to be used by the rough hands of man.

He considered they were able, if they were properly managed, to give birth to their children, and that opinion he adhered to through all his

practice, and would not, if he had been left to himself, have had instruments used in more than two or three anomalous cases in the whole of his two thousand births.

He had but little to do with modern gynecology. He seldom used pessaries or intra-uterine injections, which are often dangerous if the mouth of the womb is not widely open.

He never had any lacerated os uteri, which gynecologists are so fond of operating upon. I never knew any of his patients to have vesico-vaginal fistulas or lacerated perineums that gave trouble.

He seldom disturbed the uterus by handling or manipulating or by blocking up with instruments, but as much as possible left everything in the hands of nature to finish in her own way and according to her own rules.

I was consulted last summer by a lady from a distance in regard to some female troubles, and among other things she told me she was at one time greatly afflicted with falling of the womb. I inquired of her what treatment she followed to make her recovery so perfect. Her answer was that she "lay in bed a year."

That cure was very much in accordance with the practice of Dr. Todd. Three months, six months, a year or two years are remedies of great value.

They will cure more uterine troubles than all the pessaries or instruments ever invented for that purpose.

They are the only remedies for inflamed and injured joints, broken bones, mashed up limbs, crippled spines, old rheumatisms and neuralgias.

Females often go to the cities to be doctored for womb troubles. They are put to bed or kept quiet, instruments are used, and after a time they go away improved, and are told that the instruments have made them better, when in fact it was the rest that improved them and the instruments made the show.

Dr. Todd told me he always had a desire to carry out the teachings of the celebrafed Prof. Richardson of the Transylvania University, who in one of his lectures said to his class: "Gentlemen, I feel it my duty to admonish you against the use of instruments, for you will not have real occasion to use them in more than one case in a thousand, and you had better let that case die or take the risks, for you will probably kill many more by the frequent use of instruments."

His long experience, sound judgment and good common sense made him as successful in general practice as he was with females.

He was a moderate bleeder, but in that as in everything else he pursued a middle course, which except in special cases was the safe course, and was one cause of his great success in general practice. I have a good number of times in fifty years been sent for in all haste to visit with another physician a woman in labor, with the request to bring forceps and

all instruments necessary for delivery. I have made it a rule for many years in most cases of that kind not to be in a hurry, but to make all the delays I could to give the attending physician time to get through with the labor before I would arrive, and often I would find the labor over and the mother and child and the doctor all doing well. If the doctor had had his instruments in time he would probably have used them with great vigor, and perhaps left in the windup of the case a lacerated perineum, a lacerated os uteri, and perhaps a vesico-vaginal fistula, all common results of the use of instruments, which would have made several hundred dollars worth of work to be placed in the hands of some gynecological operator for repairs.

I never knew Dr. Todd to have any of these accidents to happen in his practice, where no instruments were used; but among gynecologists and others who use instruments largely, all these accidents frequently occur.

The following case will illustrate what we may often expect from the use of forceps in cases of labor. I was consulted recently by a lady suffering from injuries received during labor by the use of forceps. In her first confinement, which was painful and lingering, in order to shorten her suffering and save time, her physician used forceps, at the request of friends, while the soft parts were still rigid and unyielding, with the result of lacerating the perineum almost to the rectum, lacerating extensively one side of the mouth and neck of the uterus, and produced such injury to the bladder and surrounding pelvic organs that she had involuntary passing of urine for two months.

Since these extensive injuries she has remained feeble, almost unable to walk, suffering from her back and side and across her hips, with general pain and weakness which may permanently affect her health. If the lady had been left to herself and watched carefully she would have got through, if not as soon, at least in a few hours more time, safely, and avoided all these accidents.

Gynecologists say that these lacerations very seldom occur from the use of instruments, but gynecologists are not usually the tearers of females but the repairers; but my observation and experience teaches me that they occur very much the oftenest in females on whom instruments have been used in delivery.

Several of those I have seen delivered by instruments had their perineums lacerated, and two that I remembered had vesico-vaginal fistulas produced. Meddlesome fingers are often used instead of forceps, and do much of the same class of injury. Dr. L. R. Charter, one of the old members of this Society, has attended even more females in labor than Dr. Todd, never used forceps, and never had any of these accidents occur in patients who were properly his own. I have always attended cases of labor, but not as many as some others, but have never used instruments or had them used more than four or five times.

I have been with other physicians, who used them much oftener, and have seen the various accidents occur. In my own cases, and those I have seen of other physicians, I am satisfied that by time and careful management most of them would have got along without instruments and without accidents.

Forceps in the hands of those who have the tact and talent and care to use them properly, may occasionally be useful, but as they are used in these times they invariably do much more harm than good. They are used largely to save time and give notoriety to the doctors, when they should be used only to preserve the safety and comfort of the female.

I remember being called in great haste to a case of labor with another physician, with a request to bring him instruments.

I took the instruments to him, and while he was making all possible haste to place the woman in a position to apply the forceps, she gave birth to the child.

The curtain dropped and the scene was ended. The poor perineum, the uterus and bladder were all left unharmed.

I noticed the other day an article in which the writer, in commenting on the use of instruments in cases of labor, mentioned several instances of physicians who had attended from one to two thousand cases of births and had never used instruments nor had any serious lacerations or accidents occur.

I have occasionally, when the child has been dead, perforated the skull, removed a portion of the brain, and, by traction with the fingers and bone forceps, elongated the head, making it cone shaped, and facilitating delivery in that way, making it easier and safer for the mother, saving time and avoiding the dangers of the forceps.

Bleeding, time, laxatives, opiates, manipulations when necessary, ergot when the muscular action of the uterus is feeble, are means used to aid in hard and lingering cases of labor.

Choloform, ether and other articles have been used in late years to ease pain, relax the system, and in severe cases of labor have been found useful. It is often said by those who never bleed that patients can not stand the loss of blood, but we often see large quantities of blood lost in child-bearing sickness, in operations and in wounds, and the patients recover just as well and just as quickly as they did fifty years ago.

I date at least one item of the change that makes bleeding less called for now than it was forty or fifty years ago, back to 1843, the period of the great epidemic influenza, or as it was called, the *Tyler grip*.

After that epidemic I thought we had more cases of marked typhoid fever and fevers of a low grade than I had seen before, in which bleeding was less required, and tonics and stimulants more useful.

Before that epidemic we had inflammatory croup, pleurisies and pneumonias, but soon we began to have diphtheria and diphtheritic or membranous croup. These with malignant pustule, typhoid fever, erysipelas fever, black tongue fever, spotted fever, or cerebro-spinal meningitis, have more often than before made their appearance and given trouble.

The most important part of our profession is hygiene; any one can bleed and administer medicine, but the laws of health, in order to understand them in all their bearings, demand much study and thought.

No one knows—no one can tell—how much of mischief and evil, how much of the seeds of disease are mixed in with the atmosphere we breathe, the water we drink, or the soil that is under us and about us.

Investigations are being made with regard to the atmosphere, which in time may be useful.

The more highly people become civilized the more they indulge in idleness and luxury; the more thickly they become crowded together in cities, the more will health and vigor of body and mind be found impaired.

Physical and intellectual stalwarts are never born and raised in city houses. They come from the mountains, the forests and the farms.

The specialities, good in their place, and in the hands of proper men, are greatly overdone. The people as a whole would be better off if there were none.

The throat, the nose, the skin, rectal, urinary and womb diseases were as a whole better treated thirty years ago.

Many of the diseases upon which so much attention is bestowed are but symptoms. Diagnosticate the cause, and when that is corrected and understood what becomes of the speciality?

Much of the uterine treatment now so fashionable is useless or even harmful. I have at various times examined females who thought they were afflicted with serious womb diseases, and had been treated for long periods by celebrated gynecologists at full prices, and found their disease to be imaginary.

Our mothers and grandmothers performed the functions of women and mothers and hardly knew there was a womb. Certainly they never heard of a *uterus*.

Potassium Bromide in the Treatment of Ovarian Menorrhagia.—Dr. Alfred Meadows (Inaugural Address, British Gynecological Society), said that every one would concede that potassium bromide exercised a most powerful influence upon the ovaries. No drug, in his experience, equaled it in controlling ovarian menorrhagia; it not only limited the flow in these particular cases, but seemed to exercise a distinct and controlling influence upon ovulation itself, decreasing its frequency.

Society Reports.

CHICAGO GYNECOLOGICAL SOCIETY.

Meeting of Friday, June 19, 1885.

The President, Dr. H. P. Merriman, in the Chair.

Report of a Case of a Fetus, Enclosed in its Sister's Placenta.

(*Fœtus Compressus. Fœtus Papyraceous.*)

Prof. J. H. Etheridge read a report of a case on the above subject and also exhibited specimen.

On September 26th, 1882, Mrs. T. J. B., 22 years old, of a nervous sanguine temperament, healthy, was delivered of a mature female child, after a normal labor of four hours duration.

During the delivery of the placenta, some abnormity was detectable, which proved to be a *fœtus papyraceus.*

The outer surface of the placenta at once arrests attention. A deep furrow separates the two placentæ, which are united, on their amniotic surface, by a series of compact white bands, discoverable only by pressing through the furrow. The large placenta constitutes about two-thirds of the entire mass. The smaller placenta is thin, flat and compact, being about one-third as thick as the larger one.

The placenta of the living child is normal throughout its extent. Cotyledons are well marked, the tufts and villi presenting normal microscopical characters. The placenta of the *fœtus compressus*, in about nine-tenths of its extent, is whitish-yellow, and very firm.. The whole thickness of this portion of the placenta, excepting its amniotic surface, presents one unbroken mass of fatty degeneration. The remaining one-tenth of the placenta presents a carneous appearance, evidently a transition stage between normal placenta and complete fatty destruction. Its cotyledons are enmassed and its tufts and villi solidified and the whole is interspersed with initial fatty depositions.

The two segments were wholly different at time of birth. The placenta of the living child presented a normal appearance. The placenta of the *fœtus papyraceus* presented the appearance of a closed bladder, which, upon examination, was found to be an unruptured amnion, containing amniotic fluid and a fetus. The development of the *fœtus compressus* corresponded to the third month. The cord of the *fœtus papyraceus* was ten cm. longer than that of its fellow, and much thinner. The cord was inserted into the margin of the placenta, near the fully developed organ.

Among the causes, producing the death of the fetus, the following may be mentioned:

1. Faulty insertion of the cord, at the margin of the placenta, adjoining its fellow. (Kieselhausen).

2. Faulty structure of the cord; thin, twisted, or deficient in the jelly of Wharton. (C. Braun).

3. Disease of the placenta.

4. Traumatism.

5. The implanting of the umbilical vessels too closely together, and arterial anastomosis.

Fœtus papyraceus is of seldom occurrence. A search through the library of the Surgeon General's office at Washington resulted in finding only five references to reports of similar cases.

DISCUSSION.

Dr. Philip Adolphus thought that such cases were of more frequent occurrence than the remarks of the author of the paper would lead one to believe. In twin pregnancy, the death of one fetus before parturition was not infrequent.

Prof. W. W. Jaggard agreed with Dr. Adolphus that while such cases were rare, a more extended research into the literature of the subject would have revealed a much larger number of cases.

While it was true that American and English text-books usually merely mentioned the fact of occurrence, German, French and Italian treatises devote a chapter to the subject. The last edition of Schroeder contained an excellent *résumé* of the literature. The case, reported and exhibited by Prof. Etheridge, resembled in many points the case in the Pathological Museum of the Jena Lying-in Hospital, fully described by B. S. Schultze. This specimen showed the placenta of a mature fetus, and adjoining it a second egg, corresponding to the sixth week of pregnancy, with its own decidua and unruptured amnion.

Prof. Etheridge's case was chiefly interesting, as bearing upon a subject of theoretical importance, *i. e.*, superfecundation and superfœtation.

On *á priori* grounds, it was possible that superfœtation could occur as late as the twelfth week of pregnancy,—when *decidua vera* and *reflexa* became united. Up to this time, it was possible that egg and spermatozoid might come in contact. Superfœtation was also possible in cases of double uteri. Up to the present time, however, no case has been recorded which does not admit of a simpler explanation.

There exists a great weight of evidence in favor of superfecundation. Mares give birth simultaneously to horse and mule foals; bitches, running during the period of rut with different breeds of dogs, throw young of different, so-called bastard forms, corresponding to the breeds of the male progenitors; the same is true of cats.

A woman may give birth to twins, one of which is white, one black.

The latter fact, however, does not necessarily demand for its explanation intercourse at or near the same time with a white and a black man, since in crossing races, the offspring may resemble either father or mother, or one child may resemble the male, the other the female progenitor.

There could be no reasonable doubt as to the accuracy of Professor Etheridge's diagnosis.

Dr. John Bartlett had seen one case of *fœtus compressus* in the Chicago Woman's Hospital, about four years ago. One fœtus was mature, the other corresponded in development to the fifth month of pregnancy.

Professor Bartlett referred to the contribution of Smellie and Mauriceau upon the subject.

Dr. Edward Warren Sawyer referred to the fact that in ectopic pregnancy no compression of the fœtus was observed. He alluded to a case in which he performed laparotomy three and one half years ago. The fœtus weighed eight pounds.

Fœtation, by inclusion, might be considered as explanatory of many of the monstosities which are so commonly seen.

Professor Daniel T. Nelson thought it would be interesting to know how much force was necessary to compress the fœtus as in Professor Etheridge's specimen. He referred to the experiments of Professor Park, of the Massachusetts Agricultural College, in the determination of the expansile force of growing squashes and pumpkins.

The President wished to know whether the death of the fœtus occurred before compression, or whether it resulted from that factor. The marginal insertion of the cord doubtless was an important etiological agent. When the uterus was in the pelvic cavity, compression was greater.

He referred to the fact that in twin pregnancies, it was unusual to find both children equally developed, and infrequently the birth of one preceded that of the other by minutes, hours and even days.

Dr. Henry T. Byford read

A Report of a Case of Leio-myom of the Vagina and Uterus.

The patient was a widow, about 35 years old. Was married ten years without becoming pregnant.

She had no decided symptoms of disease except an occasional backache, some leucorrhœa. She was treated for uterine inflammation three years before, and no tumor was discovered. Since that time, she has menstruated every two weeks. Catamenia usually lasted five days, and were normal as to quantity.

Twelve years ago she noticed a tumor about the size of a hickory nut just within the vagina. This swelling had since that time grown steadily, until its protrusion from the vagina, about the 12th of Jan., 1885, caused great inconvenience. Even at that time, the pain was promptly relieved by an opiate, administered by Dr. Doering. Two or three days

subsequently, the tumor became black, swollen, and emitted a gangrenous odor. Slight septicæmia followed cauterization with nitric and carbolic acids. The tumor was attached to the anterior wall of the vagina.

The tumor was subsequently crushed off, and the patient recovered. Indagation revealed a protuberance, about the size of a goose egg, upon the right anterior surface of the uterus, which was apparently a leiomyom.

The following points of interest are to be noted in connection with the case:

1. The occurrance of both tumors in the same person.
2. The slow growth of the vaginal as compared with the uterine tumor.
3. Sloughing of the capsule, immediately after protrusion of the vagina, without impairment of the vitality of the tumor, proper.
4. Entire absence of sensitiveness to strong acid.
5. The production of a pedicle by ligaturing the proximal end with a fine wire.
6. Sterility, antedating the discovery of the uterine tumor.
7. The influence of ergot upon the uterine tumor.

DISCUSSION.

Dr. Edward Warren Sawyer thought the locality of the vaginal tumor was interesting but not unusal.

Professor Daniel T. Nelson inquired whether or no fibroid tumors occurred by preference in the anterior vaginal wall.

He thought, as regards the operation, an elliptical incision around the base, and enucleation of the tumor, would have fulfilled the indications equally well.

OBSTETRICAL SOCIETY OF LONDON.

Meeting of June 3, 1885.

J. B. POTTER, M. D., President, in the Chair.

On Servus Perimetritis.

Dr. John Williams gave an account of three well marked cases, and a description of the appearances after death in one. Dr. Williams concluded that the disease was due to extension of inflammation from the uterus, that it commenced in the peritoneum in the neighborhood of the ovaries, and extended along the brim of the pelvis, matting the intestines to the fundus of the uterus, and converting the pelvic cavity into a closed sac. Into that sac, serum was effused, which raised the uterus upwards and forwards, and depressed the posterior wall of the vagina, so as to protrude through the vulva in some cases. The effused serum became coagulated at the upper part, where adhesive peritonitis was present, and

formed in some cases a considerable mass. This mass fixed the uterus, and was the hard swelling felt after tapping.

Mr. Knowsley Thornton had seen two cases of the disease, one of which had recovered after tapping and drainage, and the other (presumed to be a similar case) had died without local treatment, without a necropsy. He urged that the connection of the onset of these cases with delivery, abortion, and sudden checking of the menses, pointed to escape of fluid from the Fallopian tube. The fluid, however, was not septic, as would be expected; indeed, if it became septic (as after tapping), the case almost always ended fatally, in the absence of a free opening and washing out the cavity. The disease was practically a separate disease from ordinary pelvic peritonitis and cellulitis, with which all were familiar. The material causing serous perimetritis was evidently very irritating, as shown by the dense adhesion. He inquired whether the semisolid material described by Dr. Williams was the result of irritation or of secretion under pressure. The pressure was indicated by the great pain accompanying the disease. As to treatment, aspiration was inferior to free opening by a trocar, and maintenance of the opening so formed, with washing out of the cavity. Nothing answered so well for this purpose as a Cock's trocar and canula, with a Well's retaining spring for the canula.

Dr. Gervis thought that cases of slight severity were not very uncommon. He differed from Dr. Williams in his explanation of the pushing of the uterus upwards and forwards, as also in hæmatocele. Dr. Williams thought this only occurred after the formation of adhesions, but Dr. Gervis had seen many cases in which this displacement occurred almost immediately after the effusion, and before the fluid could have become encysted.

Mr. Doran agreed with Dr. Williams as to the usual route of the extension of the inflammation, namely, from the uterine cavity and along the tubes. In Dr. Matthews Duncan's book on *Parametritis and Parimetritis*, a case was related in which the sound could be easily passed through the left tube into the peritoneal cavity. The rarity of serous perimetritis might be due to the necessity of a combination of factors, namely, patency of the tubes, followed by a particular kind of inflammation producing the effusion of serum, and the formation of a closed cavity by adhesions. Perimetritic inflammation might be of a parametric origin, by way of extension, but this was probably rarer than the mode of origin above described.

Dr. Graily Hewitt pointed out the analogy between effusion into Douglas's pouch (serus perimetritis), and effusion into the broad ligament (parametritis); the only difference being that of position. He thought the diagnosis of serous perimetritis from hæmatocele very difficult.

Dr. Godson believed that serous perimetritis was not so rare as the author thought, and that its diagnosis from hæmatocele was often difficult.

In Dr. Greenhalgh's time, the ward at St. Bartholomew's Hospital had always several cases headed "hæmatocele," and cases with the same characteristics were called by Dr. Matthew's Duncan "perimetritis." As neither tapped these swellings, their pathology was so far doubtful.

Dr. Matthews Duncan esteemed highly this contribution to pathology, and especially the *post mortem* examination in one of the cases. In Dr. Duncan's cases, the fluid always run off as in a perimetric abcess, and he had no experience of the solid matter described by Dr. Williams. He had seen the serum set after it was drawn off, but he required full assurance as to its formation in the cavity containing the fluid.

Dr. Cleveland thought the use of the thermometer had not been sufficiently dwelt upon in the differential diagnosis between serous perimetritis and hæmatocele.

Dr. W. Griffith thought that the great difference of opinion among the speakers arose from the want of a precise definition of serous perimetritis. Some, who thought the disease rare, limited the term serous perimetritis to cases with large effusion. He believed perimetritis to be the commonest form of metritis, by the analogy of pleurisy with effusion of serum and that of other inflammation of serous membranes, and by the displacement of the uterus and its rapid subsequent retreat. The specimen which he showed illustrated the occasional sudden disappearance of the signs; the serum escaping by rectum, vagina, and bladder, and not showing its presence, as pus would.

Dr. Galabin had met with a fair number of cases in which encysted serous perimetritis had been diagnosed, and the diagnosis confirmed by the gradual disappearance of the swelling, and the recovery of the patient. In one case, the resemblance to an ovarian cyst had been very close, a fluctuating swelling in Douglas's pouch being felt as a tumor reaching above the navel. A diagnosis of serous perimetritis was made because of the acute inflammatory symptoms with which the affection began. It eventually disappeared completely. He had only once tapped a serous perimetritis, and that in consequence of an error in diagnosis. Tapping was generally unadvisable. His case illustrated the fact that these cases might sometimes have the rigors and high temperature usually thought to indicate pus. It was aspirated, and clear serum drawn off with antiseptic precautions. The patient became worse, showing septic symptoms; the swelling filled again; a free incision was made, a large drainage-tube kept in, and the cavity washed out with a weak solution of iodine. The patient recovered after a serious illness.

Dr. Champneys had noticed the flakes of lymph described by Dr. Williams, in fluid recently drawn from a case of serous perimetritis under his care. He had lately had a case in St. George's Hospital, in which a pouch of clear serum existed side by side with an ordinary pelvic abscess. As regarded the surgical treatment. it must be remembered that

the walls of the cyst were dense and unyielding, and would not readily collapse; in this lay one of the dangers. If such a collection were opened antiseptic treatment should consist of careful antiseptic cleansing of the vagina and the instruments; and, in addition, he believed that it was well to leave an iodoform-pessary, which would melt slowly, in the vagina, to dispose of any germs which might attempt to gain an entrance. He believed that a differential diagnosis without tapping was impossible more often than not. He would remind Dr. Griffith that a very small enlargement of a pelvic organ—such as an ovary—was sufficient to displace the floating uterus, and was not an absolute evidence of effusion.

Dr. Williams, in reply, said that his first case was improved by tapping that she died from severe diarrhœa, for which there was ample cause other than sepsis; and the contents of the sac were quite sweet and antiseptic after death. The little serum at the bottom of the sac was clear and sweet. As to the rarity of the disease, Dr. Williams was surprised to hear from several speakers that they had seen several such cases. There were only about half a dozen cases on record, and the majority of systematic writers on the diseases of women said little or nothing about it. The three cases recorded in the paper were the only three that Dr. Williams had seen and recognized. Mr. Doran's ingenious explanation of the extension of inflammation along the Fallopian tube to the peritoneum in some cases, and not in others, was deserving of attention and study. Dr. Williams thought that it was probably a correct account of what took place. Dr. Matthews Duncan had asked if the solid serum was the result of *post mortem* change. Dr. Williams thought it was not, because the solid mass was discovered by Dr. Hewitt and himself during life above the layer of fluid in the most dependent part of the sac; flakes of it were passed in the second case; and, in three of the cases, a similar hard mass was discovered at the top of the sac during life; and Dr. Matthews Duncan had found the same physical signs after tapping, signs which the presence of the coagulated fluid fully explained.

Specimen of the Pseudo-osteomalacic Pelvis of Naegele.

Dr. Walter Griffith showed a specimen, which was bought in Paris by Pofessor Humphery, of Cambridge, and lent by him. It was obviously rachitic, but had some of the characteristic deformities of mollities, including a much curved iliac fossæ, and a triangular in place of the usual flat brim; the parts of the ilia were moulded round the sacrum. The os pubis, however, was not peaked, as was the case in other specimens of this type. It was suggested that the cause of this unusual deformity was a severe form of rickets occuring later in childhood than usual. References were given to other recorded specimens, and to papers on the subject by Smellie, Dr. John Burns of Glasgow, Naegelè, Michaelis, Litzmann, and Spieglberg. Photographs and detailed measurements were also taken.

Dr. Champneys regretted that the author had not adopted the plan which he had himself followed when he had brought abstruse pelvis before the Society, namely, that of leaving the specimen on view with the paper at the Library for the study of Fellows. Speaking from a cursory view of the pelvis, he thought that the disease appeared to have attacked the pelvis unequally, the posterior parts being much more deformed, and bearing much plainer evidences of softening than the anterior parts. The specimen was of great interest.

Meeting of July 1, 1885.

J.B. Potter, M.D., F.R.C.P., in the Chair.

Notes of a Visit to Some of the Lying-in Hospitals in the North of Europe, and Particularly on the Advantages of the Antiseptic System in Obstetric Practice.

These notes were read by Dr. Priestley. The hospitals visited were at Copenhagen, Helsingfors and St. Petersburg. At Copenhagen the new system began in 1870. In the Maternity Hospital, in the fifteen years from 1850 to 1864, the mortality was one in 24; between 1822 and 1843 it had been one in nineteen—that is, only slightly lower than the mortality at the Nightingale Charity at the King's College Hospital, which compelled the author to close the ward. From 1865 to 1874 the mortality from puerperal fever was one 51; from 1870 to 1874 it was one in 87, the improvement coinciding with increasing strictness in antiseptic precautions. The hospital was constructed in the most elaborate and expensive way to secure hygienic perfection, including ventilation, isolation of each part of the building (if desirable), and even a separate room for each patient. Moreover the rooms were only used alternately, which was equivalent to halving the number of beds. The attendants were under strict rules of periodical purification, and were not allowed to pass directly from the convalescent to the lying-in wards. If a patient had been ill, the nurse was fumigated with sulphurous acid gas by an elaborate process. The same was used for disinfection of rooms. The personal precautions included careful antiseptic hand-washing, soaking of catheters, etc. No sponges were used. The vagina was injected twice a day with carbolic acid lotion. The beds were of canvas filled with chopped straw, which was destroyed after use. Each bed had its own basins, syringes, catheters, etc. The placentæ and dressings were burnt. On suspicion of infection the patient was carefully isolated. The medical officers were not allowed to attend necropsies. The director lived in the hospital, of which he was absolute master. As in other hospitals, there was an undue proportion of difficult cases and of primiparæ, and the primiparæ had a large share in the mortality

The midwives of Denmark were compelled to use antiseptic precautions, and this had sensibly reduced the mortality. At Helsingfors the

hospital was arranged on the pavilion system, one block being devoted to diseases of women, including wards for operations and rooms for out-patients. The wards for lying-in cases contained about 42 beds; the beds were in the middle of the rooms. The matresses were sacs of fresh rye-straw for the non-paying patients, and with horsehair or bark of the lime-tree for paying patients, all being cleaned, baked and remade for each new patient. Some patients lay on the bare boards of the bottom of the bed, as was usual in Finland. Antiseptics were not as minutely carried out here. Midwives and nurses were made to wash their hands and arms with soap, and afterwards to rub them with the hypochlorite of lime, before examinations. Abnormal cases were isolated. The medical officers were forbidden to attend necropsies or to touch infectious wounds, without taking antiseptic precautions afterwards. Catheters were carbolised, and the wards periodically closed and cleaned. After labor a single injection of carbolic acid was given, and often when specially indicated. The linen was simply washed; the blankets were fumigated with burning sulphur. Professor Pippingskold trusted largely to the excellent hygiene of the hospital (built on a rock high above the town) and to the clean habits of the people; but the external genitals were always washed before delivery, otherwise the object was to guard against external morbific influences, more minute care being thought unnecessary under the circumstances. Before the new Maternity was opened in 1879 the total mortality averaged 1·83 per cent. From 1872 to 1884 the total mortality was one per cent.

In the Grand Duchess Catherine Maternity Hospital in St. Petersburg there were arrangements for isolating the various parts. Scrupulous cleanliness, the disinfection of rooms, concrete floors draining into a central gulley, and the careful use of antiseptics were included in the system. In the last three years there had only been one death from puerperal fever, though six had occurred from other causes.

Dr. Matthews Duncan said that the subject of antiseptics in midwifery was the greatest in the whole obstetric department, but it got very little attention. The subject was greater than the prevention of epidemics, which came occasionally, while puerperal deaths were constantly occurring among the most valuable members of the commuuity. The value of antiseptics in midwifery had only lately been estimated, because it was only lately that the profession had agreed as to the mortality of childbed. Some men had their thousands of cases without a death, and while he did not doubt their veracity he did not accept their statements. No man could claim immunity from deformed pelves, placenta previa, puerperal convulsions, phlegmasia dolens, puerperal inflammation, puerperal scarlatina, puerperal septicæmia, or puerperal insanity. Farr began by ridiculing the demonstrated puerperal mortality, but he eventally nearly accepted the received view — that about one in 120 died in childbed, or

within a few weeks after delivery. In the history of the subject all measures had failed to reduce the mortality till antiseptics were introduced. Abroad, the great mass of women were attended by midwives, who were compelled by law to use antiseptics. In Great Britain most were attended by medical men, very few of whom used antiseptics. He hoped they would be universally adopted.

Dr. John Williams said that while it was not possible to abolish by antiseptics the effects of pregnancy and labor, the abolition of deaths from puerperal fever might be hoped for. The mortality of the St. Petersburg Hospital (one death from puerperal fever in three years) was a near approach to this. The results at Helsingfors and Copenhagen were little better than those in the Rotunda at Dublin before antiseptics were used. In seven years of office Dr. Collins admitted about 16,000 women, and had two epidemics of puerperal fever, in which about 80 died, and the total mortality was one per cent. Dr. Macan, the present master, admitted during his first year of office 1,090, and of these six died, two at least from other causes than septicæmia. This result had been obtained by careful antiseptic precautions. Dr. McClintock calculated that a quarter of the deaths in childbed were not due to childbed. Taking the mortality in childbed at one per cent, the lowest mortality in childbed after the destruction of puerperal fever would be a quarter per cent, or 2·2 per 1000; and the object should be to reduce the mortality to this level; this he believed might be attained by the use of antiseptics. This was the object of himself and Dr. Champneys at the General Lying-in Hospital, but the object had not been attained. During the first four years there were seven deaths in 1,174, or a little more than 0·5 per cent. During the first 12 or 18 months carbolic acid was used; during a second similar period, permanganate of potash, and since May, 1884, corrosive sublimate. During the first two periods there was a good deal of illness, though the mortality was low; since the use of corrosive sublimate was begun there had been no deaths from puerperal fever, and almost an entire absence of morbility. The mortality mentioned was the total mortality for all cases which were not well at the time of their discharge from the hospital, and were admitted into St. George's Hospital under Dr. Champneys, or into University College Hospital under Dr. Williams; and the result was incorporated with the results of the General Lying-in Hospital.

Dr. Champneys said that the total mortality from all causes in the General Lying-in Hospital in the last four years and a half since Dr. Williams and he had had charge of it, was nine in 1,360, one in 151, or 0·66 per cent. The last two deaths were from phthisis, with which the patients were generally moribund on admission. These results were decidedly good at the present time, though it was hoped to improve them in the future. The greatest care was taken to follow up the cases; on discharge each patient was furnished with a post-card directed to the hospital, on

which she was requested to write her state and that of the infant about a month after her discharge, or six weeks from confinement. No statistics of lying-in hospitals were trustworthy which did not give the total mortality from all causes, and which did not state that no patient was transferred to another hospital, or that, if transferred, her progress was ascertained. The statement that no deaths occurred from puerperal fever was worthless in the absence of the whole mortality; and, indeed, all cases dying after childbirth are presumably, or in absence of direct proof to the contrary, cases of puerperal fever, and such cases often gave unmistakeable, though unexpected evidence of septic disease after death. Thus, the statement that in the St. Petersburg Hospital there had only been one death from puerperal fever in three years, while there had been six deaths from other causes, did not carry conviction. That was certainly a most unusual proportion. What were the causes of the other six deaths? The triumphs of antiseptics had been greatest in the most filthy localities. Where cleanliness and general hygiene had been attended to, the benefit, though undoubted, was less striking. Antiseptic teaching should be as clear and as definite as possible; if details were unnecessarily multiplied, nurses, and even practitioners were liable to confuse the essentials with non-essentials, and even to throw the whole thing overboard. He found no difficulty in carrying out the same details in private as in the hospital. The all-important thing was scrupulous cleanliness of the hands. On this he insisted on the part of nurses as well as on his own, and inspection of the nails and skin of the hands of nurses was important on this account.

Dr. West thought that the teachers of midwifery, or, better still, the Obstetrical Society, should pronounce definitely as to what was essential in antiseptic treatment. In Vienna, frequent vaginal washings and the introduction of iodoform into the uterine cavity, formed part of the system. Women would, he thought, be apt to dislike this interference, and it would also suggest to them the great danger there must be to necessitate it.

Dr. Playfair was sure that in private not one man in a hundred used antiseptics in any thorough way. There were not the difficulties which Dr. West had imagined, and in his own practice antiseptics were as rigidly enforced as it was possible. Absolute surgical asepsis was of course impossible. He now supplied his nurses with antiseptic rules printed on a card, the chief rules being that the nurse should never touch the neighborhood of the genitals without careful antiseptic washing of the hands. The same precaution was taken with regard to all sponges, catheters, etc. Corrosive sublimate was preferred to carbolic acid. These rules were even more important for nurses and midwives, who often touched the genitals, than for medical men, who, as a rule, only did so during labor. Nurses were apt to be careless of details and of cleanliness, and the result

was visited on the medical man. He hoped that antiseptics would soon be the routine practice, and he was sure the result would be most satisfactory.

Dr. Gibbons remarked on the common practice of pouring a few drops of antiseptic solution into an unmeasured quantity of water, which was useless. He asked Sir Joseph Lister what strength of carbolized vaseline should be used.

Dr. Murphy (Sunderland) regretted that the discussion had not included the details of the antiseptic treatment recommended. He asked the opinion of the Society as to the justifiability of attending a case of labor shortly after having attended a case of puerperal fever in consultation. The text-books said that practice must be given up for several months. Dr. Murphy thought that change of clothes and a warm carbolic bath, one in 100, for half an hour, gave sufficient security.

Dr. Braxton Hicks agreed with Dr. Matthews Duncan as to the value of antiseptics in midwifery, but not as to his estimate of puerperal mortality. He had in early practice 800 to 1000 cases, and only one death, which was from puerperal fever. Morbility was as important as mortality. He referred to the injurious effects of human lochia inoculated into rabbits, as showing their poisonous character. The antiseptic vaseline or oil was of little importance compared with antiseptic cleanliness of the hands.

Dr. Harvey said that for many years carbolized oil had been used in Calcutta for vaginal examinations, and that vaginal injections of carbolic acid or corrosive sublimate were used if any fetor was noticed in the discharges. When there was pyrexia besides, the uterus was washed out. Good had resulted, but the mortality in Calcutta would be high, as patients were often admitted many hours after labor, and after the establishment of septicemia.

Dr. Priestley in reply congratulated Dr. Williams and Dr. Champneys on the results obtained by them, and said that he was informed by Dr. Grigg that of 1,100 deliveries in Queen Charlotte's Hospital, between February 14, 1884, and July 1st, 1885, there had been only one death, and that was from puerperal convulsions. He agreed with Dr. West as to the desirability of defining what amount of antiseptics were necessary, and he doubted if autogenetic infection existed. Antiseptic cleanliness of all things touching the genitals was all-important, but vaginal injections had better be retained meanwhile.—*British Medical Journal.*

The Microbe of Mumps.—M. Ollivier, it is said, has succeeded in discovering definite forms of micrococci in both the saliva and the urine of subjects suffering from mumps. These micrococci exist either singly, or united in pairs, or in the form of a zoogloea mass; and in addition to them the fluids examined contained the bacteria usually found in such excretions.

Abstracts and Selections.

I. — OBSTETRIC.

Post-Partum Hemorrhage.—James F. Hibberd, M.D., of Richmond, Ind., read the following paper, which we extract from the *American Practitioner*, before the Indiana State Medical Society:

Last year I had the honor to present to this Society a paper on post-partum hemorrhage, which excited an earnest and protracted debate—that I am fain to hope did some good—by bringing up to our professional vision with great distinctness two very important points in obstetrical practice, viz., that there are certain principles underlying the scientific management of post-partum hemorrhage, and that he only is a competent and safe obstetrician who, in advance of his meeting with a case of this hemorrhage, is thoroughly conversant with these principles, it being manifest that after the advent of the hemorrhage there is no time to hunt up the proper practice nor send for counsel. Whatever is necessary to save the patient must be done at once. A delay to do the right thing for even a few minutes may be fatal to the patient, and to do the wrong thing promptly or deliberately may be equally disastrous.

It is these considerations that give me warrant to present the subject afresh at the first opportunity; and, furthermore, the diverse views of the proper management of these cases proclaimed by the polemics last year seem to make it judicious to keep the subject agitated until our professional minds arrive at something approaching unanimity as to the best line of procedure, or otherwise establish the fact that several lines are equally feasible and reliable.

My position last year was that the dogma, so earnestly promulgated by late Prof. Meigs in these cases, "Turn out that clot," was surely not a safe rule of action in all cases, and possibly applicable to only a small minority of them, and after the interchange of sentiment and experience by the members on that occasion I was confirmed in that position.

Although it was not distinctly stated in my former essay, that it was never necessary to insert the hand into the uterus for the sole purpose of clearing it of clots of hemorrhage after childbirth, such a conclusion was a fair inference from the tenor of the article, and I felt justified in the idea from the fact that in over forty years of general practice, with a full proportion of obstetrical engagements, I had never met with such a necessity. The one condition that would theoretically demand such an interference is when the uterus is filled with blood and the hemorrhage continuing, and the attendant wholly unable to secure contraction of the womb by external manipulation or otherwise.

Holding that the contraction of the womb is the legitimate and natural mode of arresting the hemorrhage, by bending and occluding the sinuses,

my thought was that if the contraction could not be commanded by other means, the hand should be inserted and the clot turned out. But it appears that the uterus may refuse to contract, and still the best practice may be not to turn out the clot.

In the *Medical News* (Philadelphia), of October 18, 1884, there is an editorial reciting the points of my last year's paper in a spirit of commendation, and closing with particulars of a case reported by Lumpe, in a recent number of the *Archiv. für Gynäkologie.*

In Lumpe's case, "after the delivery of the child, the uterus did not contract at all, but remained relaxed like a leather bag, and its contour could not be felt through the abdominal walls. The placenta was detached, but still there was no contraction of the uterus; yet the bleeding was not excessive. More blood was discharged than usual, but gradually the flow ceased, and I felt in the cervix coagula. I believe it would have been most improper for me to have removed the blood coagula from the uterus and the vagina, for only the exceptional coagulability of the blood saved the woman from flooding."

With this additional testimony we must surely see that there can not be an unvarying routine of acts to be gone through with in every case of post-partum hemorrhage, but that in this, as in all other disorders, it is indispensable that the scientific attendant first clearly comprehends the nature of the difficulty he has to contend with, and then as fully understands the principles of the means of relief applicable to the case.

To illustrate another point in practice in cases of post-partum hemorrhage, I submit the following:

I was called at 1 o'clock p.m. August 21, 1884, to see J. G. M., in labor with her first child. She first felt pain at 4 a.m. of the same day, and the labor progressed smoothly to 3 p.m., when the first stage was completed, and I ruptured the membranes, giving exit to a moderate quantity of liquor amnii. The second stage of labor was completed at 4:30 by the delivery of a vigorous boy, and the third stage at 4:50, the delivery of the placenta being assisted somewhat by my fingers. The uterus contracted promptly under massage, but showing a slight disposition to relax, and the patient complaining of more than usual pain after normal first labors, I gave her ten minims of Squibb's fluid extract of ergot and the tenth of a grain of morphia. In a few minutes all appeared to be quiet, and soon after I left the lying-in chamber, and was adjusting my cuffs in another room when the nurse notified me that she thought the patient was bleeding too much, and on returning to the bedside I found the patient in great pain, referred to the left iliac region in front and the sacrum in the rear, and that the fundus of the uterus had risen to the umbilicus. I immediately administered twenty minims of fluid extract ergot and a tenth grain of morphia, and resorted to massage of the uterus through the abdominal wall, which induced contraction without reducing

its size or position. The patient was lying on her back, now complaining of still greater pain, and I had her turned to her left side, the position in which she was delivered of both child and secundines. The only effect of this turning over was to transfer the pain from the left to the right iliac region, it and the sacrum pain both now so intensified that the victim declared the suffering much greater than at the close of the second stage of her labor. This pain was located where I had not before known in a primipara, and it was of a severity I had not before witnessed in a primipara. It amounted to agony. And added to this the uterus was contracting powerfully under manipulation at regular short intervals, but was not at all reduced in size. The pulse had become frequent and feeble, and the prolabia had lost some of their freshness, but no blood was passing the vulva. My diagnosis was that the womb was filled with blood, which the contractions, strong as they were, could not remove.

Here, then, was a case militating against the views I had held and the doctrine I had preached for many years, viz., that a healthy womb after a normal labor did not have a mischievous clot in it that could not be expelled by its own contractile power, stimulated by external manipulation, rendering it always unnecessary to insert the hand into the organ to turn out the clot, according to the orthodox rule in such cases made and provided.

The case in hand clearly indicated to me the necessity of rendering manual assistance to rid the uterus of the offending clot, and I proceeded promptly to that service. Passing my fingers between the labia, I found the ostium vaginæ closed by a smooth body, seeming to the touch like a ball of considerable dimensions covered with a serous membrane. This puzzled me. In the attempt to obtain knowledge as to its character by a digital exploration of it, it was ruptured, and my fingers passed into its substance, solving the mystery of its nature by demonstrating it a clot of blood, of an extent that plugged up the entire vagina and reaching into the womb. Having determined these facts, it was the work of but a moment to break the vaginal coagulum, and, the contracting womb extruding its contents, the whole mass was speedily driven out through the vulva, and the uterus on the instant was reduced to its proper size and position, the pain and distress immediately disappeared, every thing promptly assumed a satisfactory condition, and all was well. The loss of blood had been considerable, but not enough to require further special attention at the moment, nor did it prevent an ordinarily good recovery of the patient.

The outcome of this case declared the correctness of my diagnosis so far as the ultimate facts were concerned, but my views were at fault in supposing the barrier to the exit of the womb-clot to be at the uterine os instead of at the ostium vaginæ, where I found it, and the removal of which cleared away the whole difficulty, rendering it not only unneces-

sary to pass my hand into the womb, but making it obvious that it would have been bad practice to have done so, leaving me at liberty still to declare that in over forty-four years' practice I have never met with a case of post-partum hemorrhage when, to save the life of the patient, it was necessary to pass the hand into the womb and turn out the clot.

This paper is intended as a plea, as was the one on the same subject last year, for a clear comprehension of the nature of post-partum hemorrhage and of the principles which should govern in its management, to the end that the accoucheur, when suddenly brought face to face with the alarming difficulty, shall at once recognize the essential points in the particular case before him, see quickly what ought to be done, and promptly do it, not failing to turn out the clot if such procedure is best, but not feeling that he must pass his hand into every womb when there is hemorrhage after childbirth because such violent proceeding is sometimes necessary. The scientific dogma in this, as in all other therapeutic procedures, should be that the simplest measure that is promptly efficient is the best.

Cæsarean Section in Central Africa.—In a recent article on the postures adopted by women in labor in Central Africa in the *Deutsche Med. Zeitung*, Dr. Breitmann gives a most interesting account of the operation of Cæsarean section, as witnessed by Dr. R. W. Felkin at Kaeura. The case was that of a very handsome young negro woman, a healthy primipara, aged 20 years. He entered the hut just at the commencement of the operation, but was not permitted to convince himself of the condition of affairs by examination. By the side of the half-intoxicated patient stood a quantity of banana wine. A bandage of Mbugu, a stiff material made from the bark of a tree, went over the breast and bound the patient firmly to the bed, another passed over the thighs; an assistant held fast the feet, and another, standing on the right side, held the skin of the abdomen on the stretch. The operator, holding aloft a knife, muttered a prayer. After the completion of the operation of the ceremony he thoroughly washed the abdomen of the woman and his own hands with banana wine, uttered a piercing cry, which was repeated by those standing without, and made an incision from the pubes almost to the umbilicus, and right into the uterus, so that the liquor amni gushed out. Some bleeding vessels were successfully touched with the actual cautery. The operator quickly extracted the child, whilst a second assistant drew the edges of the uterine wound apart and compressed them. After division of the umbilical cord, the child was handed to the woman, the operator laid aside the knife, grasped the uterus and compressed it with both hands with all his might. He then dilated the cervix with two or three fingers, removed the placenta, while the assistants were busied in arranging the intestines, and especially in preventing any portion getting between the

edges of the wound. What bleeding still continued was stopped by the actual cautery, whilst the operator still compressed the uterus until it was firmly contracted. No sutures were inserted. The assistant who had before held the abdominal wall on the stretch grasped the angle of the wound and the whole wound was covered with an herb pad. The bandages were now loosed, the assistant grasped the patient by the arms and turned her over into a position in which the fluid in the abdominal cavity flowed out. She was then brought back into the former position, the herb covering was removed, the edges of the wound was carefully adjusted and fixed with well polished needles, similar to acupressure needles and made fast by an encircling thread. A paste prepared from two different roots by chewing was laid over the wound in the place of plaster, over this a previously warmed hanana leaf, and the whole fastened on with Mbugu bandage. Up to the moment when the needles were inserted the patient had evinced no expression of pain, and an hour after the operation was in good spirits. The temperature did not rise above 37.5° except during the first night, when it reached 39°. Pulse 108.

Two hours after the operation the child was put to the breast, but after about ten days as the milk stopped it was fed by another woman of the tribe. The first change of dressing was made on the third day, a needle was removed, then more followed on the 5th, and the remainder on the 6th. At every change of dressing fresh "ointment" was put on, and the secretion from the wound removed with a tampon charged with it. The dressing was solid, and in nine days after the operation the wound was healed and the patient quite well. Beyond the interest which naturally attaches to a case of this nature, it is hightened in the present instance by the quaint native proceedings and the decidedly civilized method employed by the chief operator.—*The Medical Press.*

II.—GYNECIC.

Habitual Constipation in Women. (Stoffella). *Wiener med. Wochenschrift,* No. 2, 1885.

Apart from the fact that the mere presence of the uterus between the bladder and the rectum will tend to produce fæcal accumulation in the rectum—more especially if there exist some uterine enlargement—there are certain general conditions which we meet with in women which are accompanied by constipation, namely, anæmic, chlorotic, and so-called hysterical conditions. This relation Stoffella endeavors to explain. The two factors which are chiefly concerned in producing evacuation of the bowels are (1) intestinal secretion in sufficient quantity, and (2) peristalsis. The peristaltic action of the bowels may be affected in two ways: firstly, by weakening of the muscular coat itself; secondly, by an interference with the innervation of the bowel. In many serious diseases, such as carcinoma, chronic Bright's disease, extensive caries, etc., atro-

phy of the muscular coat of the intestine has been shown to exist, and Stoffella believes that a similar change occurs in simple anæmia and chlorosis. Two facts help to confirm this hypothesis, (1) that the majority of anæmic and chlorotic patients exhibits a greater or less degree of dilatation of the stomach, due to fatty degeneration, or, at least, cloudy swelling of the muscular coat, caused by deficient oxygenation of the blood, a condition analogous to that of the muscular fibres of the heart in chlorosis; (2) that, as a rule, as the condition of the blood improves, the constipation disappears. That interference with the innervation of the bowel diminishes peristalsis is proved not only by experiments, but also clinically. An impaired innervation of the bowel, combined with atrophy of the muscular coat, might readily lead to the obstinate constipation often found in anæmia and chlorosis. Increased innervation may also cause constipation, as shown in chronic lead poisoning, in which, so long as the colic and cramp continue, the bowels are confined.

There is another way in which increased innervation of the bowels may cause constipation, namely, by causing contraction of the vessels and consequent diminution in secretion. This would also lead to increased blood pressure in the abdominal aorta. Now, in very many cases of nervous and anæmic women, we find marked aortic pulsation. In most of these cases we find some pathological change in the uterus or its appendages, and it is possible that the irritation of the sympathetic centres of that organ may produce stimulation of the sympathetic ganglia of the abdomen, causing increased tonicity of the intestinal vessels and increased aortic pulsation. Almost without exception we find that women in whom marked aortic pulsation exists complain of constipation. Still further, tonic contraction of the vessels of the bowel will produce not only diminished intestinal secretion, but also diminished intestinal absorption, and hence we so frequently get the combination of nervous symptoms, constipation, and anæmia in one patient.

In the treatment of habitual constipation we must first find out the cause which produces it, that is to say, whether we have to do with atony of the muscular coat of the intestine, or with a tonic contraction of its vessels. In this we are greatly assisted by the character of the pulsation in the aorta, a normal pulsation being present in the former class of cases, while it is very marked in the latter.

In cases coming under the first category (generally found in chlorotic patients) Stoffella recommends iron, given over a long period, and combined with extracts of aloes or rhubarb. These latter drugs seem to cause the iron to be more readily absorbed. This treatment may have to be followed for six months or a year before it is crowned with success. In those cases in which the above combination does not overcome the constipation, a small quantity of powdered senna leaves may be given at night and also in the morning if necessary. Clysters of cold water, and

hydropathic treatment are also good. As adjuvants to the iron treatment, the milk cure, health gymnastics, massage of the abdomen and electricity may be named. In employing electricity we must not overloook the danger of causing intussusception.

In the second class of cases, where the tonic contraction of the vessels is the cause of the sluggishness of the bowels, antispasmodic remedies are indicated in addition to the iron, which must also be used here on account of the anæmia which generally exists. Belladonna is good, but the bromides of potassium and sodium are most valuable. In addition, cold water treatment and massage may be used, and those mineral baths which contain iron are very beneficial. Attention must also be paid to the irritative causes which underlie the condition, it is in these cases that the gynecologists renders good service. In all cases the diet, of course, must be attended to, those articles which are well known to produce hard stools being avoided. Where the constipation is due to sluggishness of of the bowels, stimulating well-spiced dishes may be given. On the other hand, where it is caused by increased innervation, a bland diet must be adopted.—*Manchester Medical Chronicle.*

The Influence of Ovariotomy on Surgery.—The following paper was read before the Massachusetts Medical Society by John Homan, M.D., of Boston, and published in the *Boston Medical and Surgical Journal:*

The privilege of addressing an assemblage of men engaged in the same pursuit, and having a sympathetic feeling for each other's endeavors to relieve suffering and lengthen human life, is one which I highly prize.

An audience furnished as this is from the annual meeting of the members of the Massachusetts Medical Society is a sympathetic audience, which it is a pleasure as well as an honor to address.

I shall not undertake to enumerate in detail all the operations which have followed the habitual performance of ovariotomy and the familiarity with the peritonæum that this implies. I will, however, later on, enumerate many of them and narrate at length some of the most striking.

Many of the gentlemen present to-day will remember that not very long ago the distinction between surgery and medicine, or rather between a surgeon and a physician, was that the former dealt with maladies and diseases on the outside of the body and the latter with those affecting the internal organs—the principal exceptions to this rule being in the case of foreign bodies in the bladder or air-passages. At the period referred to there were no special courses except on ophthalmology. Now the manner of teaching the science and practice of medicine and surgery has changed and developed so much, particularly during the last ten years, that one in search may find somewhere a special course on almost any subject connected with medical or surgical knowledge. Among the branches of practical surgery none has made greater strides, or been more fascinating

in its performance, than abdominal surgery. Twenty-five or thirty years ago the interior of the abdominal cavity, except to an occasional ovariotomist or to a performer of Cæsarean section, was a *terra incognita*, and not only unknown, but feared and dreaded. The occasional—I had almost said every-day—occurrence of stabs in the abdomen letting out the intestines and followed by recovery, taught surgeons nothing in regard to the harmlessness of simple incision of the peritoneum, and each case was treated with dread, and the rapid convalescence was recorded with wonder and reported as extraordinary. Still more severe injuries, caused by stakes or pitchforks penetrating the abdomen, only served to cause the instruments of these wounds to be preserved in museums and the patients to be exhibited as surgical curiosities. No one saw and acted on the evident truth that a simple incised wound of the abdominal parietes was almost inocuous. This dread of the peritoneum was caused partly by the experience of surgeons in herniotomy delayed too long, or by seeing peritonitis and death follow a wound of the peritoneum made in a vaginal surgical operation, and by the experience of physicians in autopsies following septic peritonitis after childbirth, in which the intestines were found of a deep purple color and glued together by lymph and pus. All these experiences made the surgeon of twenty-five years ago fear to wound the peritoneum, and held him back from opening it voluntarily and exploring its cavity. To look back now on the long list of recorded cases of men who were found in the streets with incised wounds of the abdomen, and whose intestines, covered with dirt, were carefully washed and replaced within the belly, and kept there by sewing the wounded walls together, and who almost invariably recovered, makes us wonder that some one did not see that, if this class of wounds was followed by recovery, how much more likely were wounds carefully made by a cleanly surgeon to unite and heal up!

The literature of abdominal surgery is to-day so voluminous that one man can scarcely read all that comes out in the periodicals alone. The operation of abdominal section, or opening the peritoneal cavity by an incision, has been called laparotomy, from the Greek word *lapara*, which means the soft parts of the body between the ribs and hips, and τομη, an incision.

Such words seem pedantic at first, but laparotomy is more concise than "abdominal incision," and we may as well use it. In the text-books before 1850 ovariotomy is only alluded to, and laparotomy, for the purpose of learning what the trouble was inside the belly, was not dreamed of. I never saw ovariotomy done in this city before I did it, and when I studied medicine here it was not mentioned in lectures or in recitations on practical surgery, and its performance was discountenanced and discouraged by the highest surgical authorities in this neighborhood. Dr. Gilman Kimball, of Lowell, however, had been for many years prac-

ticing ovariotomy in New England, and pursuing his work with great courage and enthusiasm; but by the profession generally the operation was not regarded favorably. Dr. Durham, of Lowell, was also operating, and in other parts of the United States, Atlee, of Pennsylvania, and Peaslee, of New York, were active ovariotomists. Spencer Wells, of London (now a baronet, Sir Spencer Wells, on account of his triumphs in ovariotomy), had taken up the subject on his return from the Crimean War, where he had served as a surgeon, and between 1858 and 1864 had operated one hundred times, with thirty-four deaths. Although this was a high mortality, yet Sir Spencer proved conclusively that the operation was not only justifiable, but imperative.

To Mr. Charles Clay, of Manchester, England, credit is also due for reëstablishing the operation, but I think Sir Spencer Wells' plan of showing all his specimens at society meetings in London, and reporting every one of his cases, caused the revival and establishment of the operation.

I will not trace the history of ovariotomy, from its first performance by McDowell, of Kentucky, in December, 1809, to the present time, but will enumerate some of the operations and triumphs of abdominal surgery which have grown out of the familiarity with the peritoneum brought about by ovariotomy.

The first operation which followed the removal of ovarian tumors was the removal of fibroid tumors of the uterus. This operation is only to be done in exceptional instances, and its success will probably never equal that of ovariotomy; but the splendid results of Dr. Keith, of Edinburgh —thirty-five cures out of thirty-eight operations—show us what can be accomplished in the performance of this very formidable operation. When it was found that wounds of the intestine, made during an ovariotomy, often united when carefully sewn together, the natural inference was made that intentional wounds of the bowel could also be healed, and this inference was acted on, and resection and suture of the intestine for the cure of fæcal fistula was successfully done.

Two cases of artificial anus have been cured by this operation by Dr. Porter, at the Massachusetts General Hospital, within the last eighteen months. It seems very hard, even now, to believe that the intestine can be pulled out of the abdominal cavity, pared, sewed together, and returned, and the abdominal wound completely closed at once and a cure result; but I have myself seen it three times, and seeing is believing. Who does not remember some dreadful sufferer with an intestinal fistula following a strangulated hernia, dragging on a miserable existence, avoiding and avoided, without control over his offensive fæcal emanations, solid, liquid, or gaseous. Now to-day ovariotomy has made possible an operation by which this sufferer can be made completely well again.

Laparotomy is done for operations likely to be successful, often or seldom, for cases almost sure to recover, and in desperate cases as a last

resort, a forlorn hope. By means of it the spleen has been removed, cancers of the stomach and intestines have been cut out, gallstones have been removed from the gallbladder, foreign bodies from the stomach and bowels, calculi from the kidneys, and even cancerous and diseased kidneys have been excised. The pain and discomfort from floating kidneys have been relieved by sewing the kidney to the abdominal parietes and fixing it in place. All of these operations have been successful in numbers of instances. Perhaps one of the most remarkbable instances of successful abdominal surgery is the recent case of Dr. Bull, of New York, who opened the abdomen in a case of pistol-shot wound, found seven perforations of the bowel, sewed the holes together, and cured the patient completely. I saw Mr. Thornton last summer, in London, lay open the stomach and remove a mass of hair shaped like a sausage, and nine inches long by two thick. After the removal of this mass the wound in the stomach was very carefully and patiently sewed together, and the woman did not even vomit during her convalescence, which was uninterrupted. It may be interesting to say that the mass of hair was the accumulation of nearly twelve years, during which time the woman had swallowed what she combed out each night and morning. Mr. Tait, of Birmingham, has shown that great suffering is caused by pus in the Fallopian tubes, and has cured many cases by removal of the tubes. You would be surprised to see how large these tubes, distended with pus, sometimes become. I have seen them of the size of a cow's horn, twisted and convoluted. Removal of the ovaries for hysteria, for insanity, and for the cure of painful menstruation (Battey's operation) has also been done. The sphere of this last operation should be closely and carefully limited, but in certain cases it is a proper proceeding. Removal of the uterine appendages, to bring about atrophy of uterine growths, is very legitimate and promises well. Laparotomy has been done successfully and unsuccessfully in cases of intestinal obstruction. As the diagnosis of the causes of obstruction becomes more precise, so will its relief by surgery be more certain. Up to the present time the failures, I think, outnumber the successes. Laparotomy is also properly done to ascertain the character of growths within the abdomen when we are ignorant of their nature and uncertain whether we can remove them.

Simple laparotomy, properly done in a healthy subject, has no mortality, or perhaps a very small percentage, and is practically inocuous. *All of these advances in abdominal surgery, all of these triumphs and discoveries in an unknown region of the body, have been caused, brought about, and made possible by ovariotomy.*

Encouraged by the success of operations in the abdominal cavity, the thorax is beginning to be explored, and the practice of surgery will probably be extended in this direction. I might give an account of the rise and progress of ovariotomy, and lengthen the list of abdominal opera-

tions which have followed it, and keep your interest and attention for many hours; but I have only tried to give a sketch of the influence of ovariotomy on modern surgery. A list of all the operations born of ovariotomy which have been done successfully would be long and tedious, but I will venture to enumerate a few. Enucleation, per vaginam, of the entire uterus for cancer of the body of the organ. (This procedure is still on trial, but in practiced hands its reputation will improve.) Removal of the spleen for cystic disease; removal of the gall-bladder; cutting into the gall-bladder (cholecystotomy); hepatotomy (or incision of the liver) for abscess and for hydatids; nephrectomy (or cutting out the kidney) for calculous pyelitis, for cancer, or for tubercle; nephrotomy (cutting into the kidney) for abscess, or for purposes of exploration. Radical operation for the cure of hernia, by sewing together the pillars of the ring and the sides of the sac. Laparotomy has also been successfully done for pelvic abscess, for splenic abscess, for acute and chronic peritonitis, for hydatids of the peritoneum, for extra-uterine fœtation. Supra-vaginal hysterectomy in pregnancy, with contracted pelvis (Porro's operation) has been often successful as a substitute for Cæsarean section; hysterectomy for the cure of uterine tumors I have already alluded to. That the abdomen could be opened, and an aneurism of an abdominal artery could be successfully treated, would not have entered into the wildest dreams of the most enthusiastic surgeon a score of years ago, and yet this has been accomplished lately by Prof. Loreta, of Bologna. He opened the abdomen and found an aneurism of the superior mesenteric artery. He tried to tie the artery above the aneurismal sac, but found this impossible on account of the adhesions of the sac to the neighboring viscera; by puncturing the sac with a small needle and introducing two yards of fine copper wire he succeeded in producing coagulation and curing the aneurism.

My own operations now number two hundred and seventy laparotomies, of which two hundred are ovariotomies for the removal of cystic ovaries; several are cases of removal of ovaries and tubes for the cure of threatened or actual insanity; a very remarkable case of removal of a fibroid tumor of the abdominal parietes and peritoneum, and other laparotomies in which the abdomen was opened for various reasons.

I may be pardoned for narrating at length another very remarkable instance of the curative influence of an abdominal incision. It is a case of tubercular peritonitis. A single girl, twenty-one years old, feeble, pale, and emaciated, with a large bellyful of fluid, came to St. Margaret's Home a year ago. It was supposed that she had an ovarian cyst. After she was etherized I saw that the fluid was probably ascitic; but I made an antiseptic (spray) exploratory incision to find out the cause of the dropsy. Much ascitic fluid ran out, and many flakes, masses, and layers of lymph. Tubercular deposits were scattered over the perito-

neum and bowels. In short, the disease was tubercular peritonitis, as was shown from the gross appearances and from the microscopic (1) examination of masses of the peritoneum which I cut away. In about two weeks the wound opened spontaneously, to allow the ascitic fluid which had accumulated to run out. The girl went home at the end of three weeks, and returned to the care of Dr. Tower, of South Weymouth. At the end of four months she had gained considerable flesh, and had a good appetite; occasionally she walked out when the weather was pleasant. All this time the opening in the scar of the abdominal incision had been discharging serum. In February of this year the catamenia, which had been absent more than a year, reappeared, and have returned regularly since. I learned from Dr. Tower that the wound is now healed, and the general health has improved wonderfully; that she is fat and of good color, and is contemplating matrimony. This is, so far as I know, a unique case, and its treatment and cure are direct outgrowths from ovariotomy.

I have given but a brief sketch of what ovariotomy has led up to, of the successes and triumphs which the establishment of the harmlessness of opening the peritoneum has achieved, and I have shown that all these successful operations within the abdominal cavity owe their inception and execution to the knowledge gained by the ovariotomist and furnished by him to the profession.

"We should count time by heart-throbs, not by figures on a dial." We should weigh the results and influences of our work, and not simply count and enumerate our operations.

I care but little for a man's statistics unless I know the character of his work. One may cure all his cases, another may have a mortality of twenty per cent. The former may have an exceptionally favorable series of cases. You can not judge which has really done the most good simply by the reported statistics.

But these remarks are foreign to the subject of my address. I only mean to say that on this day, the anniversary of our Society, it would be well for us to weigh our deeds and see what we have accomplished in our lives, and I am sure we should find that we have made immense advances in the treatment of morbid states of the organs within the abdominal cavity; and I think you will all agree with me that to the establishment of ovariotomy we owe all our progress in this direction.

The Operation for Correcting Some Uterine Displacements by Shortening the Round Ligaments. (Read before the British Gynecological Society, by Wm. Alexander, M.D.)—The operation is delicate, and differs from nearly all the ordinary ones. It resembles most the ligature of arteries or neurot-

1. The bacillus of tubercle was not found, however.

omies, but from both it differs in many essential particulars. In the former pulsation is a guide, in the latter the characteristic whiteness and, in addition, twitching, often shows when the nerve is found. The round ligament does not pulsate, and is of a pale flesh color when first seen. It lies imbedded in other tissues which by the inexperienced might easily be mistaken for it.

Beginners sometimes fail to find the ligament through inexperience. I failed only once in eighty cases, and returning to the case later was quite successful. In two cases one ligament in each was adherent, and would not pull out. In both cases the opposite ligament was strong, and the cases are well up to the present. The operation has, therefore, in my hands been very satisfactory.

Dr. Paul F. Munde describes in the *New England Medical Journal* four cases in which he attempted the round ligament operation. In one he was perfectly successful, in the second he could only with great difficulty get one ligament, and in the third and fourth he could not find any ligaments at all.

A few weeks previously, in the *Edinburg Medical Journal*, Dr. Imlach stated that in nearly forty cases he had never failed to find the ligaments, and thought only half an inch incision was necessary for the operation. If Dr. Imlach minimized matters to an extent that was unsafe for the inexperienced to follow, Dr. Munde's conclusions are far more faulty in exaggerating the difficulties and dangers of the operation. The author has examined the round ligaments in over a hundred cases on the post mortem table, at ages ranging from one day to eighty years, and except in two cases of pelvic adhesions where the ligaments were found but failed to run, no difficulty was experienced in the finding and pulling out. No one should attempt the operation without first doing it a few times on the cadaver. The best way to make sure of finding the ligaments may be detailed as follows:

The pubic spine is the first landmark, and may be felt by an intelligent finger under any depth of superincumbent fat. It does not matter much whether the finger can feel the spine clearly or not, provided the primary incision be made within reasonable distance of it, but there need be no serious difficuly in finding it as Dr. Munde seems to think. From this an incision is made upwards and outwards in the direction of the inguinal canal for one and a half to three inches according to the fatness of the subject and dexterity of the operator. A considerable thickness of subcutaneous fat is now met with, which must be cut through by subsequent incisions until the pearly glistening tendon of the external oblique muscle is reached. Midway through the fatty tissue an aponeurosis sometimes appears so firm and smooth as to cause the operator to think he is deep enough, and if he begins to poke about here and there, as I have done and seen others do, it is little wonder no ligaments can there be found.

The first stage of the operation consists simply in cutting down upon the tendon of the external oblique muscle until it appears clean and shining at the bottom of the wound. If the operator succeeds in hitting the spine, the external inguinal canal with the intercolumnar fibres crossing it can also be seen. If not, the aperture now made down to the muscles can be dragged over an extensive area by retractors, so that the region can be searched until the ring is found. The finger passed to the bottom of the wound can be used to detect the spine and the ring outside. The former by its hardness, the latter by its lessened resistance compared with that of the aponeuroses around it. The anatomical knowledge of the operator should always be equal to the recognition of these structures, that is, the spine and the external abdominal ring. There are other apertures in the aponeurosis and a depression filled with fat below Poupart's ligament that sometimes simulate the external ring. Poupart's ligament below, the intercolumnar fascia running across, and the spine at the inner side are sufficient landmarks. When in doubt, a slow, deliberate survey of the position should be taken, and no groping in the dark made, as these are certain to lead to failure. Having clearly isolated the external abdominal ring, and tied or compressed the bleeding vessels, the next step in the operation may be relied upon. The intercolumnar fascia which is generally pushed forwards by the fat and other structures beneath is to be cut through over all the extent of the external ring, and in the direction of its longest diameter—a nerve, vessels, fat, tendinous bands and the round ligament spring out of the canal immediately. In fat people the quantity of fat conceals all other structures. No 'grabbing' at the mass is now to be practiced, as some have recommended. By everting all the structures upward, the round ligament can generally be seen, generally at the lowest part, and with the white, easily-distinguished genital branch of the genito-crural nerve along its anterior surface and close to it. The ligament at this stage is more or less round in shape, sometimes rather delicate, but always has a readily recognized flesh-colored structure that might easily be destroyed by forceps rudely and blindly applied. Should the ligament seem very frail, or the operator be doubtful whether he has found it or not, he should take care not to displace the structures or destroy them by searching or pulling. His best plan in such a case is to open up the inguinal canal a little and then re-examine what he supposes to be the ligament. No difficulty in finding the ligament need thus ever be experienced, provided the operator knows what he is about. When the ligament is clearly identified the small nerve on its surface is to be cut through without cutting any of the ligament. Then gentle traction is to be made either by the fingers or broad blunt-pointed forceps. Care must be taken not to break the ligament by such traction. Bands will now be seen holding it to the neighboring structures. These should be cut through with scissors, thegreatest caution is to be observed to avoid notching the

ligament at the same time. With a little patience and perseverance the structure is so far free that all resistance is at an end, and it comes out as easily as if broken inside, as Dr. Munde thought it was in his first case. As soon as it begins to peel out, and without drawing it out further, I cover the wound with a clean sponge and operate on the other side. I always stand on the side opposite to that on which I am operating, thus getting a better view into the canal, and draw the ligament more conveniently toward me. Having freed the opposite ligament the difficulties of the operation are at an end, and the second stage is finished. The structures mistaken in the early operations for the ligament were bands of fascia, the nerves, and especially fasiculi of the internal oblique muscle. The latter are very like it, are very brittle, and I have no doubt have been the "frail, fatty, degenerated ligaments" some operators have found and have been unable to pull out. They seem to go along the canal in the direction of the ligaments. They should never be seen when the operation is satisfactorily performed.

The third stage consists in placing the uterus in position with the sound, and pulling out the ligaments until they are felt to control that position. A third assistant first replaces the uterus and holds it in position. The operator then pulls out both ligaments almost simultaneously and gently until the sound is felt to be slightly moved. Both ligaments are then held by an assistant, and the operator, with curved needle and moderately fine catgut, stitches each to both pillars of the ring by two sutures on each side. The assistant then lets go, the ends of the ligaments are cut off, and the remainder stitched into the wounds by means of the sutures that close the wounds. A fine drainage tube is inserted, and the wound washed out with antiseptic lotion before these last sutures are tied. In private I do not use the carbolic spray, but in every case use drainage, and never allow patients out of bed under three weeks. In cases of retroversion and prolapse I insert, before the dressing is applied, a Hodge's pessary, and keep it in at least during the convalescence. To counteract retroflexion a galvanic stem should be used for at least a month.

The most important point in the third stage of the operation is to get the right tension on the ligaments, which is, after a little experience, easily gauged by the check of the weight of the uterus.

The after-treatment consists in rest. The wound is dressed and the tube removed on the second day. Patients should not he allowed up for three weeks, and rest on a sofa for a further period is decidedly advantageous.

As to the results, three and a half years' experience seems to point out that the danger of morality is *nil*, whilst the operation is an absolutely certain cure for retroversion and retroflexion, also very successful for prolapses. —*The Medical Press.*

III.—DISEASES OF CHILDREN.

The Pathology and Etiology of Congenital Club-foot. By Robert William Parker and George Samuel Shattock. This is a contribution to the pathology and etiology of congenital deformities, which is of great interest, and bears witness to the great industry and acumen of its authors. They commence with a description of six cases dissected by themselves, and present therewith diagrams illustrating the form of the astragalus in each case, accompanied for purposes of comparison, with others of the forms of normal astragali in man and the anthropoid apes. Where there was an opportunity of examining the spinal cord, nothing abnormal was found. After removing all the muscles from the legs affected, considerable force was still required to straighten the foot. This resistance, however, disappeared when the ligaments were divided. In a typical case of varus the following changes were found in the astragalus: Its trochlear surface is extended backward as far as the posterior edge of the lower articular surface. The extent of this additional surface is still easily recognizable, and it is clearly due to the condition of extreme extension of the ankle joint. On the contrary, the extent of the trochlear surface is proportionately lessened in front, owing to the fact that it no longer forms part of the proper articulating surface. In the next place, the neck of the astragalus is lengthened and directed inwards with an unnatural obliquity. "The articular surface of the head is prolonged on its inner side, and instead of being uniformly convex, it is divided into two parts, the planes of which meet at an obtuse angle; the inner and larger corresponds to the displaced navicular bone; the outer portion, which looks forward, is unopposed, instead of being, as in the normal condition, in contact with the navicular. The portions which are redundant, both on the head, and on the trochlear surface, correspond in extent with the normal limits, but do not present the polished surface of the rest of the articulating areas, being covered with a layer of loose connective tissue. The internal malleolar facet is unrecognizable, doubtless because it too had ceased to form part of the proper articulating area." Case 3 showed a marked amount of rotation inwards of the tibia and fibula. In it also band-like adhesions existed between the trochlea and the opposed margins of the tibia and fibula. This was an anencephalous fetus. The 6th case presented one of the bursal cavities, regarded by Volkmann and Lucke as indicative of local intrauterine pressure.

The authors next sketch the different theories which have been advanced to account for congenital club-foot. They think that only in a few exceptional cases do nerve lesions play a part in the etiology. They agree with Adams that the bone changes are a result, and not a cause of the malposition. They confirm Hueter's statement that the axis of the neck of the astragalus at birth is normally directed with a considerable degree of obliquity inwards and forwards. The redundant portion of the

articular surface on the head of the astragalus, already referred to as being covered with loose connective tissue, they regard as "undoubtedly" showing that displacement of the foot has occurred at a period subsequent to the development of an astragalus of normal conformation. In one of the cases, that of an anencephalous fetus, they assert that the astragalus was quite normal—"a fact which argues strongly against malformation of the bone as the cause, or even an essential element of the condition." They omit, however, to give any account of the condition of the other bones, except that the "calcaneum was normal." The anatomy of club-foot has not yet been proved to be wholly concerned with the astragalus. The authors afterwards point out that apes are not talipedic, although obliquity of the astragalus is normal in them. They give a long, ingenious and forcible argument that club-foot and other analagous deformities are caused by intrauterine pressure. The usual position of the fetus in utero is described. Various specimens of fetuses with club-foot, preserved in their membranes, are referred to, and circumstances noted which suggest a mechanical explanation.

It is asserted that other joints are affected in a way strictly identical with clubbing of the feet. The so-called "genu recurvatum" is quoted as an example. With regard to heredity, and its being sometimes the father who transmits, they say this does not militate against a mechanical theory of causation, because it is now known that the liquor amnii is a fetal, and not a maternal product.

In summing up they say: Calcaneus we hold to be an exaggeration by environment of the position natural to the fetal feet during the later period of intrauterine life, some limitation of extension-movement being normal at birth."

"Varus, we think, results from similar causes, but these commence to act at a much earlier period of intrauterine existence, the great alterations in the form of the bones, which usually coexist, and the adhesions met with at times in the ankle-joint, pointing to this.—*Trans. Path. Society of London.*

The Treatment of Acute Nephritis.—Anfrecht ("Berl. klin. Woch."; "Lyon med.") advises the greatest caution in medication, and particularly the avoidance of diuretics and diaphoretics; at the most, he uses iron to combat the anæmia only after the lapse of several weeks. At the outset the patient must keep his bed, and be allowed only a minimum of nitrogenous food. Light vegetables are to be preferred, and it is only at the end of a fortnight that milk and broth are allowed. He cites the case of a child with scarlatinal nephritis who recovered under this treatment, although there had been suppression of urine for eighty hours.—*New York Medical Journal.*

Bibliography.

Transactions of New York Medical Association. Volume 1, 1884. New York, Appleton & Co. Cincinnati, Robert Clarke & Co. Price, $5,00.

This volume is the most tangible benefit yet seen of the "code quarrel" in New York. The newly organised association has given us a very handsome work and one above the average in the quality of its contents. While the book is made up of contributions in all departments of practice, we shall limit our comments to those germane to the work of the Journal.

The address in Obstetrics and Gynecology by T. Gaillard Thomas, M.D., a brief survey of the present state of opinion on those topics is valuable for its suggestions from the eminent author, but it has already had wide circulation.

"The Management of Criminal Abortion," by W. H. Robb, M.D., favors the use of Ergot as a hemostatic in early abortions, (a practice which we believe is only harmful), to avert septicæmia he advises the introduction of flexible perforated rubber tubes into the uterus, through which by means of a fountain syringe, hot carbolized water is thrown.

Damin Colvin M. D., advocates "venesection in the convulsions of pregnant and parturient women," basing his convictions upon his own and his father's experience, covering more than 50 years of practice. His statements are worthy of careful attention, but it is to be regretted that many of his cases occurring before the presence of albuminuria was appreciated, have not sufficient data to be very valuable.

"A case of tubal pregnancy" reported by J. G. Orton, M.D. is interesting because of its duration for many years, and is one case in support of the doctrine that *all* cases of extra-uterine gestation are orignally tubal.

The name of Nathan Bozeman, M. D., gives weight to an article on "Extra-uterine pregnancy." He believes retro, and retro-latero versions play an important part in causing this accident, he earnestly advises electricty early, whenever there is well-grounded suspicion of this condition, and laparotomy in its later treatment. Next follows "A case of ovariotomy," then "Rupture of the uterus with escape of the entire ovum into the abdominal cavity."

An article on "protecting the perineum," by Jacob Hartmann, M.D., is either far behind the times or as much in advance as is shown by the statements, "I may say without apology and in perfect confidence, that in the great majority of existing lacerations the damage has not been done by the natural passage of the head over the perinæum, * * * * * but by the uncalled for, and injudicious use of forceps. The cases are rare in which instruments are necessary, in multipara scarely ever, and in primipara very, very seldom.

"The curette, its place and power in uterine therapeutics, by Geo. T. Harrison, M. D., is a good expression of the present state of opinion as to this instrument.

"On the management of breech cases in which both extremities are reflected upward parallel to the body of the child, by W. T. Lusk, M. D., a brief quotation will set before our readers the important points of this valuable paper. "Perhaps most writers insist upon manual methods of extraction to the exclusion of all others. My own experience is favorable to the use of instrumental aids as additional resources when the hand alone proves inadequate to accomplish the desired object. At the risk of exciting adverse criticisms I do not hesitate to advocate in a case of need, the forceps, the fillet, the blunt hook, and when the child is dead, the cephalotribe, and I recommend them in the order given."

A long and carefully prepared article on Diphtheria by J. Lewis Smith M.D., concludes this series of papers. W.H.T.

The Radical Cure of Cancer of the Rectum.—Maurice Polosson, in an article on this subject in *La Lyon Médicale*, proposes to operate for the radical cure of cancer of the rectum by first performing colotomy, and then making a secondary operation for extirpating the cancer. The preliminary operation renders the extirpation of the neoplasm more easy and less subject to subsequent complications. Polosson has tested this method in one case, making the artificial anus in the iliac region. This case recovered.—*Revue des Sciences Medicale.*

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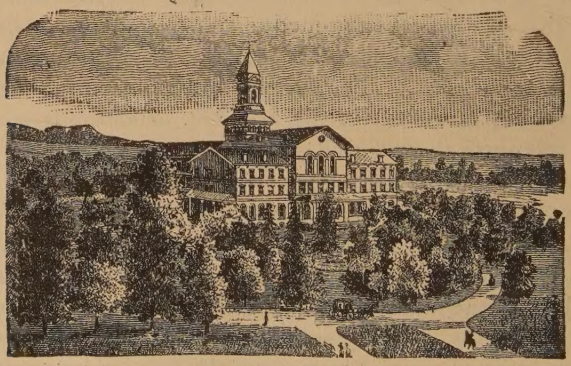

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